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Financial Statement

ASSEMBLY SQUARE
DEVELOPMENT IMPACT ANALYSIS

Prepared for:

Federal Realty Investment Trust

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Annapolis, MD

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ASSEMBLY SQUARE DEVELOPMENT IMPACT ANALYSIS

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INTRODUCTION AND SUMMARY

DOCUMENT SCOPE AND PURPOSE

Federal Realty Investment Trust has proposed the development of a mixed-use, multi-phase project to be constructed on the Assembly Square site in Somerville, MA. This document presents analyses and projections for the economic and fiscal impacts attributed to this project.

The scope of the analyses and projections presented herein include the project's local *fiscal impacts*, which include annual tax revenues and public expenses, as well as *economic impacts*, which include output, employment and wages. The latter analyses address the impacts of project construction as well as annual ongoing operations on the City of Somerville as well as the State of Massachusetts.

The findings of these analyses are intended to provide guidance to the City and State in understanding the level of net benefits (costs) that the proposed project is likely to generate.

ORGANIZATION

Following this introduction and summary, this report will first describe the proposed development and its components. From there, the report analyzes the project's local fiscal -- revenue and expense -- impacts. These analyses will first present impacts upon total project completion, with subsequent tables showing the progression of such impacts over time.

The next section of the report will focus on the economic impacts – output, employment and labor income – for the City and then the State of Massachusetts, and will also include a calculation of projected State income and sales tax revenues generated by the project. Again, the analyses will first show these impacts upon project completion, with subsequent tables showing the buildup of these impacts over time.

METHODOLOGY

In estimating public operating revenues and expenses, the following general information, assumptions and methodologies shall apply:

- All dollar figures represent *current dollar values*.

- *Project*: The proposed Assembly Square project comprises a multiple-component development incorporating several phases, projected at buildout to include 2,158 new multi-family dwelling units in various mid-rise and high-rise configurations; 1.75 million square feet of office space, 864,000 square feet of new retail (including restaurant and theater) space, 234,000 square feet in the renovated Assembly Square Mall (excluding the mall's K-Mart space), a 200-room hotel, and 9,600 parking spaces, the majority of which will be situated in above-ground or below-ground structures.

Assembly Square Development Program Summary*

Residential rental apt.	708 Dw units
Residential condominiums	1,450 Dw units
Office	1,750,000 Sq. ft.
Retail	864,101 Sq. ft.
Revitalized Mall*	233,887 Sq. ft.
Lodging	200 Rooms
Parking	9,604 spaces

*Excludes K-mart (approx. 96,000 sq. ft.)

program and rev.xls\IMPLAN inputs

- *Project Values*: unless otherwise noted, property values are projected based on estimates provided by Federal Realty Investment Trust.

- *Market Support Assumption*: The market will support the project's components, meaning that the project will be able to maintain high occupancies at prices or lease rates as reasonably necessary to support contemplated development investments.

- *Net New Absorption*: The market will absorb the project and its separate components without causing (1) the loss of properties of substantial taxable value or (2) the displacement and relocation out of Somerville of entities supporting substantial property values. Thus, project tenants will represent net new additions to the Somerville community. While some tenants may

move from other locations within Somerville, other new tenants will then occupy such tenants' previous locations, thus generating net new additions to the community.

- In calculating projected revenues, this analysis applies the City's *prevailing assessment policies, procedures and tax rates*.

- *Projected Completion/Impact Date*: Annual revenue and expense impacts are projected for the year 2019, the projected date at which all project components will be complete and operating at stabilized occupancies. Additional analyses contained herein project annual impacts for the years between 2010 and 2019.

- *Current Expense Allocations*: In calculating projected expenses, this analysis rests upon an understanding of the City's prevailing expense patterns as reflected in its FY 2005-06 adopted budget; in gaining more detailed understandings of key expense items, we have conducted interviews with representatives of the following City departments: Auditing, Finance, Police, Fire, Public Works, Parks/Recreation and the Board of Education.

- *Quantification of Burdens*: Expense impacts are projected based on theoretical burdens and needs, rather than on actual appropriations. Thus, while the City's future budget processes may or may not allocate increased funds to meet new burdens, this analysis seeks to quantify such increased burdens, and therefore identifies them as new expenses.

- *Objective Approach*: This analysis presents an objective view. While prepared on behalf of the Assembly Square developer, the developer has not influenced any assumptions or methodologies, which have been based on an independent and objective approach.

SUMMARY OF KEY FINDINGS

Upon completion and attainment of stabilized occupancies, the Assembly Square project as currently planned will generate the following impacts:

- By 2019, an annual *net fiscal gain to the City of Somerville* of $18.6 million, including $24.3 million in revenues, less $5.7 million in increased expenses. Under current plans for development phasing, much of this gain will accrue after 2016. In the project's first two years, its initial phase will incur annual net losses of $53,000; by Year 3 (2012), however, the project will generate annual net fiscal benefits of $3.6 million, which will increase to $6.8 million in 2014, $12.5 million in 2017, and $18.6 million by 2019. *Please see Section II*.

- *Construction phase economic impacts in the City of Somerville* amounting to $2 billion in output, 16,600 jobs, and $959 million in salaries and wages. These impacts will be distributed over 10 years, peaking in years 2011, 2013 and to a lesser extent in 2016 before ending after 2018. *Please see Section III.A.1*.

- *Construction phase economic impacts in the State of Massachusetts* (excluding those captured by the City of Somerville) amounting to an additional $474 million in output, 4,200 jobs, and $189 million in wages and salaries. As in Somerville, these would be distributed over 10 years, with high points in 2011, 2013 and 2016. *Please see Section III.A.2*.

- *Annual operating phase economic impacts to the City of Somerville:* By 2019, the annual impact from the completed project as proposed would amount to $2 billion in annual output, more than 14,800 jobs and $798 million in wages and salaries. This impact will accrue gradually at first, and then accelerate after 2016. *Please see Sections III.B.2 and 3*.

- *Annual operating phase impacts in the State of Massachusetts* (excluding those captured by the City of Somerville) amounting to an additional $491 million in output, 4,200 jobs, and $201 million in wages and salaries. As in Somerville, these impacts would build up rapidly after 2016. *Please see Sections III.B.4 and 5*.

- *State sales and income tax revenues* of $64.7 million per year. From 2009 to 2016, these revenue benefits will fluctuate between roughly $5 and $25 million as construction activity rises and falls. After 2016, annual benefits will increase more rapidly, reaching $64.7 million in 2019. After 2018, construction-derived revenues will cease, and operations-derived revenues will remain relatively stable thereafter. *Please see Section III.B.6.*

The following table summarizes the Assembly Square project's impacts for the entire development upon projected completion in 2019.

Impact Summary

	City of Somerville	State of MA (excl. Somerville impact)
Annual Fiscal:		
Revenues	$24,281,549	$64,653,787
Expenses	($5,680,066)	n/a
Net Gain	$18,601,483	n/a
Annual Operating Phase		
Output	$1,990,399,000	$491,185,000
Employment	14,846	4,207
Wages and Salaries	$798,486,000	$200,526,000
Construction Phase		
Output	$2,038,534,000	$474,374,000
Employment	16,643	4,189
Wages and Salaries	$958,746,000	$189,418,000

assembly fiscal.xls\total sum

I. DEVELOPMENT PROGRAM

As currently proposed, at buildout, the entire Assembly Square development (excluding the K-Mart store, which technically does not constitute a new development) will include:

Assembly Square Development Program Summary*

Residential rental apt.	708 Dw units
Residential condominiums	1,450 Dw units
Office	1,750,000 Sq. ft.
Retail	864,101 Sq. ft.
Revitalized Mall*	233,887 Sq. ft.
Lodging	200 Rooms
Parking	9,604 spaces

*Excludes K-mart (approx. 96,000 sq. ft.)

program and rev.xls\IMPLAN inputs

Upon attainment of stabilized occupancies, these development components will exert the following increases[1] on the City of Somerville:

New Community Inputs

	Current	Increase	% Increase
	Current	#	%
Population	75,006	4,818	6.4%
Households	30,835	2,050	6.6%
Jobs	25,954	9,835	37.9%
Retail Employment	4,174	2,375	56.9%
Public School Children	5,300	233	4.4%
Public Road miles	90.6	2.1	2.3%

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These new inputs will be phased in over a period of roughly ten years after commencement of construction. The currently projected development schedule

[1] Excluding employees at the planned movie theater: in an exception to the general assumption that the project will generate net new absorption, it should be recognized that the envisioned theater would likely displace the area's existing theater.

anticipates the introduction of residential and retail growth in the initial phases, with office development components occurring after 2016. The projected development schedule is as follows:

Projected Development Phasing

Phase	Year	Bldgs	Retail (sq. ft.)	Theater (sq. ft.)	Apartment Units	Condo Units	Office (sq. ft.)	Lodging Rooms	Parking Spaces
	2005	Mall	233,887						
	2010	IKEA	310,000						1,550
	2011								
IA,B	2012	F,G,H,B,D	192,795		300	736			1,947
	2013								
II	2014	A,C,E	128,122	62,000	408	175		200	4,217
III	2015	K	59,403			359			341
IV	2016	I,J	50,640			180			329
V, VI	2017	A, L	21,141				700,000		1,220
VI	2018	A	20,000				350,000		
VI	2019	O,M	20,000				700,000		
	Totals		1,035,988	62,000	708	1,450	1,750,000	200	9,604

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The following sections present discussions of the initial and ongoing impacts exerted by these new inputs to the community.

II. FISCAL IMPACTS

A. FISCAL IMPACTS: LOCAL REVENUES

This section calculates annual fiscal impacts attributable to the Assembly Square development upon completion of its final development phases, as projected in 2019. Calculations incorporate City revenues from real property taxes, personal property taxes, motor vehicle excise taxes, and lodging taxes.

1. Real Estate Taxes

The following table shows projected real estate taxes for the Assembly Square development upon achieving stabilized operations as projected in 2019.

In calculating these figures, values are based on the development program and operating assumptions provided by Federal Realty. To these figures, the analysis applies prevailing tax rates and assessment practices. In regard to the latter issue, while the City assesses property annually at 100 percent of fair market value, the table applies a 95 percent assessment ratio to account for likely depreciation (while some project components may be 10 years old in 2019, others will be substantially new; few would merit greater depreciation factors).

As shown in the table, upon reaching stabilized operations, the Assembly Square project will generate an estimated $24.2 million in annual property tax revenues. After subtracting the valuation and revenues attributable to the property in its current condition, the new development would generate a net increase of approximately $23 million in annual property tax revenues.

Property Tax Revenues: 2019

	Value	Assessment Ratio	Tax Rate	Gross Revenues	Less Exemption	Net Revenues
Residential						
Rental	$226,107,942	95%	0.01053	$2,261,871	$1,098,887	$1,162,983
Condominium	$662,341,875	95%	0.01053	$6,625,737	$2,250,546	$4,375,191
Office	$592,103,969	95%	0.0189	$10,631,227	$0	$10,631,227
Retail[1]	$394,336,715	95%	0.0189	$7,080,316	$0	$7,080,316
Lodging	$51,700,000	95%	0.0189	$928,274	$0	$928,274
Total	$1,926,590,501					$24,177,990
Current Base	($63,000,000)	95%	0.0189	($1,131,165)		($1,131,165)
Net Gain (loss)	$1,863,590,501					$23,046,825

[1] Includes property taxes from existing mall, but excludes movie theater revenues, which would not generate net new revenues after subtracting revenues from currently existing theater.

program and rev.xls\2019 revenues

2. Other City Revenues

In addition to real estate tax revenues, Somerville taxes various types of personal property – vehicles and business equipment – as well as room charges for lodging facilities. These various revenue sources are likely to generate a combined total of more than $1.2 million annually.

The following discussions present the bases for this projection.

MOTOR VEHICLE EXCISE TAX

For residential properties, automobiles comprise the primary source of personal property taxes. These can be projected based on assumptions of 1.5 vehicles per rental apartment unit, and 1.75 vehicle per condominium unit, with an average assessed value (based on State depreciation formulas) of $6,000 per vehicle. Applying these assumptions, the table below projects annual vehicle excise tax revenue at approximately $159,300 for the apartment component and $380,625 for the condominium component, for an annual total of approximately $539,925.

Other Revenue Sources

	Assumption	Units	Rate	Annual Revenue
Vehicle Excise Tax[1]				
Apts	$9,000 value/du	708	0.025	$159,300
Condominium	$10,500 value/du	1,450	0.025	$380,625
Personal Property Tax[2]		Taxable Amount		
Office	1.9% real prop value	$592,103,969	0.0189	$212,625
Retail	1.9% real prop value	$406,736,715	0.0189	$146,059
Hotel	1.9% dev't value	$51,700,000	0.0189	$18,565
Lodging Tax		$7,938,750	0.04	$317,550
TOTAL				$1,234,724

[1] Avg. values based on 1.5 vehicles/apt and 1.75 vehicles per condominium, and avg. taxable value of $6,000/vehicle, based on Massachusetts valuation rules.

[2] 1.9% ratio derived from interview with assessors' dept. personnel, examination of personal property tax records, and analysis of figures provided in recent Somerville bond prospectus document.

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PERSONAL PROPERTY TAXES

In addition to motor vehicles, taxes are levied against business personal properties, which the assessor's office defines as to include equipment and machinery used for business purposes, but which excludes items such as furnishings.

In estimating an appropriate figure for taxable personal property attributable to the Assembly Square project, this analysis draws upon interviews with the City Assessor's office, reviews of personal property tax rolls, and the City's most recent bond prospectus. These materials indicate ratios of overall personal property value to real property value; closer review has enabled us to identify such values for *commercial* personal and real properties. Based on our investigations, commercial personal properties taxed by the City amount to roughly 1.9 percent of taxable commercial real property.

Applying this ratio, personal property tax revenues are projected at $212,625 for office properties, $146,000 for retail properties, and $18,600 for the project's lodging component. Added together, these comprise a total of approximately $378,200 annually.

LODGING TAX

The City of Somerville collects a 4 percent tax on room charges for lodging. While the specific hotel operator has not been determined, a reasonable operating performance -- based on a 75 percent occupancy rate at an average daily room rate of $145 -- would generate annual room charges of $7,938,750. This would generate $317,550 in local revenues.

3. Revenue Summary

Combining the various revenue streams projected in the above discussions, total annual net revenues accruing to the City of Somerville amount to approximately $24.3 million.

Summary of Revenue Increases	
Net Real Property Taxes	$23,046,825
Other (Excise, Personal, Lodging)	$1,234,724
Total Revenue Increase	**$24,281,549**

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B. FISCAL IMPACTS: LOCAL EXPENSES

By generating, attracting, and accommodating increased population, employment and traffic, the Assembly Square project would impose increased burdens on the City of Somerville's ability to provide public services. This section examines and projects the cost burdens that should be anticipated by the City of Somerville.

1. Somerville Budget Analysis

The current (FY '06) operating budget for the City of Somerville amounts to approximately $155.9 million. Of this total, public education consumes the largest share, at 29 percent. The next-largest cost categories include pension and fringe benefits (24 percent), public safety (16.7 percent) and public works (11 percent).

Somerville FY 06 Budget		
Department	**Amount**	**Share**
General Government	$8,456,034	5.4%
Public Safety	$26,045,270	16.7%
DPW	$17,148,899	11.0%
Public Schools	$45,000,000	28.9%
Culture and Recreation	$2,230,202	1.4%
Pension and Fringe	$37,608,323	24.1%
Debt Service	$6,837,438	4.4%
Other	$12,602,469	8.1%
TOTALS	$155,928,635	100.0%

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2. Expense Impacts

In projecting public expense increases, we have reviewed budget items, interviewed City department heads, and applied judgments based on prior experience. These have enabled us to ascertain (1) the fixed or variable nature of various budget items; and (2) for variable expenses, the factor(s) that would determine the extent of variation.

In the first inquiry, our analysis seeks to identify those budget items that would or would not be affected by the project. In identifying these costs, our methodology takes care to measure *marginal* costs, as opposed to *average* costs. The latter entails overly simplistic assumptions that all costs would vary as new households or workers or roads are introduced. This is inappropriate. For instance, the costs for providing public services addressing the overall city (e.g., mayor's office, elections committee, etc.) or the central administration of city operations (e.g., internal technology systems, debt service, public building maintenance), are likely to remain fixed, regardless of new developments and the resulting population or employment changes. In contrast, departments providing direct services involving public safety, education, recreation and road maintenance will in fact vary as population, employment or infrastructure expand and contract. This analysis focuses on these types of variable expenses.[2]

After identifying the City's variable cost items, the second inquiry focuses on the extent of cost variation. Most cost variations will be driven by the increases in

[2] Other variable costs would involve water/sewer services, but such costs would be recovered in service fees, and would not constitute net impacts.

population, households, workers, school children or public roads that would result from the Assembly Square project. These factors are presented below.

New Community Inputs

	Current	Increase	% Increase
	Current	#	%
Population	75,006	4,818	6.4%
Households	30,835	2,050	6.6%
Jobs	25,954	9,835	37.9%
Retail Employment	4,174	2,375	56.9%
Public School Children	5,300	233	4.4%
Public Road miles	90.6	2.1	2.3%

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In general, new costs incurred by the Assembly Square project would fall most heavily on the public safety, (police and fire departments), education, and pension/benefits categories. The following discusses these departments and the methods for projecting departmental expense increases.

Among these discussions, the initial section regarding police department expenses is presented as an example of applicable methodologies, and therefore offers a greater level of detail than ensuing department expense discussions.

PUBLIC SAFETY: POLICE DEPARTMENT

Among the services provided by the Somerville police department, the costs for community information programs, dispatch and detailing offices, and internal operating procedures (e.g., professional standards, general administration) would not be materially increased by the Assembly Square project.

Other types of police expenses, however, would increase substantially. The new activity introduced by the Assembly Square project will generate increased numbers of traffic stops, traffic accidents, crimes, personal injuries, disturbances, and other issues requiring police attention. These would incur requirements for new staff and equipment costs on the department's traffic, patrol, and criminal investigations operations. These cost categories collectively account for $8.35 million, (75 percent) of the department's $11.1 million budget (see table below).

For most variable personnel and maintenance functions, police costs will be attributable to the increased presence of residents and workers. Therefore, projected increases for most expense categories are calculated in proportion to the

weighted average of the increases in population and employment. This weighted average is calculated as the total combined increase of 14,653 in jobs and population, representing a 14.5 percent increase over the existing combined total of 100,960. This factor accounts for the various types of police responses incurred by an increased presence of workers and residents, and is applied to project expense increases for criminal investigation, patrol maintenance and non-traffic-related patrol costs.

Projected Police Department Cost Impact

		Increase	
	Current	Factor	Amount
Community Outreach	$237,747	0.0%	$0
Traffic/Personnel	$473,891	29.0%	$137,631
Traffic/Maintenance	$21,832	29.0%	$6,341
Patrol/Personnel	$5,022,818	14.5%	$728,973
Patrol/Personnel -- traffic-related	$1,255,705	29.0%	$364,691
Patrol/Maintenance	$139,873	14.5%	$20,300
Crime Investigation/Personnel	$1,435,014	14.5%	$208,267
Crime Investigation/Mainenance	$4,825	14.5%	$700
Fixed Costs	$2,772,732	0.0%	$0.0
Subtotal Police	$11,126,690		$1,466,904

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In addition to incidents incurred by new residents and workers, new shoppers would also be drawn to (or retained in) Somerville as a result of the Assembly Square project. This influx of shopping traffic could cause an increase in city-wide traffic, and thus, in the number of retail-traffic-related incidents.

In calculating the impact of increased traffic, the analysis assigns a separate increase factor to the police traffic unit as well as portions of the patrol staff budget. Interviews with police department officials indicate that in recent years approximately 19 percent of police department calls involved traffic (moving violations and accidents)[3] incidents. Based on this information, the analysis allocates 80 percent of the "patrol personnel" and 100 percent of the "traffic unit" cost items to traffic-related incidents. Thus, while the remaining budget items – and 20 percent of the patrol staff budget -- would increase in proportion to

[3] Double counting: "Moving violation" and accident" categories overlap slightly, resulting in some double-counting of traffic-related incidents.

population and employment increases (at 14.5 percent), these traffic-related budget items would be subject to a separate, traffic-related increase factor.[4]

The applicable traffic-related increase factor is measured in proportion to retail employment. Projected new retail employment of 2,375 represents an increase of 57 percent over current non-automotive retail/restaurant employment of 4,174. In estimating new *shopper traffic* impacts, however, this increase must be weighted more heavily than the increase in retail workers. In calculating the appropriate weighting factor, the project's retail employment is multiplied by trip generation factors provided by the Institute of Traffic Engineering (ITE). Combining several categories of retail and restaurant uses, the proposed development can be projected to generate a reasonable estimate of 52 trips (non-employee) trips per 1,000 square feet of retail space.[5] This is 12.6 times the employee-generated traffic of 4.2 employee-trips per 1,000 square feet (based on an assumed standard of 1 employee – 2 trips – per 480 square feet). Combining these various steps and factors, the increase in traffic-related patrol personnel costs is calculated as follows:

= new Somerville shopper traffic/current Somerville shopper traffic

= (pop. change) + (empl. change) + (shoppers @12.6 x retail empl. change) / current pop. + current empl. + current retail shoppers (@ 12.6 x current retail employment)

= 4,818 + 9,835 + 29,962 (or 2,375 x 12.6) / (75,006 + 25,954 + (4,174* 12.6)) =

= 44,615 / 153,552 = 29%

Incorporating these calculations, as shown above, total costs would increase by approximately $1.47 million over the department's current $11.1 million budget.[6]

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[4] Double counting: The 14.5 percent increase factor attributable to new residents and workers already accounts for increases in resident- and worker-related traffic incidents. Current data, however, do not allow for separation of resident and worker traffic incidents from shopper incidents. Use of the higher 29 percent factor for the entire traffic-related portion of the budget, therefore, results in some additional double-counting of traffic-related police costs.

[5] This would mean that every retail parking space not occupied by employees (1.5/1,000 sq. ft.) would be occupied an average of roughly 15-17 times/day.

[6] The Somerville police department has already requested a new substation in the vicinity of the project. This request, however, arises as a result of the department's implementation of a new system for deployment, and has been made independent of anticipated impacts of the Assembly Square project. It should also be noted that, during project construction periods, the department would derive additional revenues from police detail assignments. While these revenues would offset some expenses, they are excluded from the figures shown because they do not comprise annual ongoing revenue streams.

PUBLIC SAFETY: FIRE DEPARTMENT

The Somerville fire department's prevention, investigation, maintenance, emergency and training costs would all increase as a result of the Assembly Square project. These variable costs amount to $9.5 million, or 88 percent of the total department budget.

As in the preceding analysis of police department expenses, fire department expenses would increase as a result of the introduction of new residents and workers. Accordingly, as in the preceding analysis of police department expenses, most variable costs would increase by the 14.5 percent average of the combined increases in population and employment.

Also consistent with the police department analysis, traffic-related costs would increase by a higher factor of 29 percent (see preceding analysis for derivation). This factor is applied to the share (approximately 6 percent, according to Somerville fire department sources) of the department's emergency incidents that are traffic-related.

Applying these factors, total department costs would increase by roughly $1.46 million over the total department budget of $11 million.

Projected Fire Department Expense Impact

	Current	Factor	Amount
Prevention/Personnel	$407,937	14.5%	$59,205
Investigation/Personnel	$69,965	14.5%	$10,154
Maintenance	$106,361	14.5%	$15,436
Emergency/Personnel/traffic-related	$544,707	29.0%	$158,198
Emergency/Personnel/non-traffic	$8,404,046	14.5%	$1,219,699
Fixed Costs	$1,422,359	0.0%	$0
Subtotal Fire	$10,955,376		$1,462,693

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PUBLIC SCHOOLS

The target markets for the multi-family housing proposed by the developer do not include families living with school-aged children. Despite this, the total supply of 2,158 dwelling units would inevitably contain a substantial number of school-aged children.

In projecting the number of school-aged children in the project's dwelling units, this analysis draws upon recent analyses of the issue prepared by the National Association of Home Builders (NAHB), the National Multi-Housing Council (NMHC), and *Housing the Commonwealth's School-Age Children*, a report prepared in 2003 for the (Massachusetts) Citizens' Housing and Planning Association.

These sources provide national, state and local data for various types of multi-family housing. Data for more than 4,200 apartment units in 7 Eastern Massachusetts communities show a ratio of 12.7 school-age children per 100 apartment dwelling units. This figure is consistent with the NAHB's ratio of 13 school-age children per 100 rental units (in structures containing more than 20 units). While data also indicate that the ratio is substantially lower for new buildings, this analysis applies the 12.7/100 du ratio.

For condominiums, national data indicate that the school-age children ratio is substantially lower than for rental apartments. This analysis applies a 12.2/100 du ratio, as found at condominium developments among selected Massachusetts communities.

After calculating these increases in school-age children, the analysis then diminishes these figures by a "private-school factor" representing households' propensity to enroll children in private schools: the national average among school-age children is 12.6 percent (NAHB).

Applying these ratios, this analysis projects that the proposed 2,638 units would increase Somerville's public school enrollment by a total of 233 students. This would represent a 4.4 percent increase in the City's current school enrollment of 5,300 students.

Projected Public School Enrollment Increase

	Dwelling Units	School Children #/du [1]	School Children Number
Rental Apartment Units	708	0.127	90
Condominium Units	1,450	0.122	177
Less Private School Children		(0.126)	(34)
Totals	2,158		233

[1] Rental apt. factor based on statistics furnished by the National Association of Home Builders. Condominium factor based on selected MA communities (Citizens' Housing and Planning Ass'n.)

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In projecting cost impacts, teaching staff, special needs programs, and two other program areas would comprise the major variable cost categories. Collectively these account for $25.76 million, or 57 percent of the total $45 million school budget. Applying a 4.4 percent increase factor to these variable cost items, total costs would increase by approximately $1.1 million.[7]

Projected Public School Operating Cost Impact

	Current Budget	Increase Factor	Increase Amount
Fixed Costs	$19,236,525	0.0%	$0
Variable Costs			
HS/Vocational Staff	$5,913,103	4.4%	$260,173
Elementary/Jr. HS Staff	$10,514,267	4.4%	$462,622
Art Program	$820,924	4.4%	$36,120
English Language Learners	$1,677,731	4.4%	$73,819
Special Needs	$6,837,450	4.4%	$300,844
Subtotal	$25,763,475		$1,133,579
TOTAL COSTS	$45,000,000		**$1,133,579**

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PENSION AND BENEFITS

Staff wage and salary costs projected in this analysis do not include the costs of taxes and benefits associated with such wages and salaries. In calculating this expense increase, this analysis first calculates the current ratio of taxes and benefits to prevailing City wages and salaries. This is 34.3 percent. The next step is to apply this ratio to the projected new wage and salaries incurred as a result of Assembly Square. As shown below, this amounts to an increased expense of approximately $1.4 million.

[7] It should be noted that Somerville's public school enrollments have been declining. Enrollment projections prepared by the City of Somerville public school system forecast a loss of another 385 students over the next four years. Thus, the projected student increases – and accompanying costs -- attributable to Assembly Square would be more than offset by expected declines in school children.

Projected Pension/Benefits Impact

Current Wages/Salaries	$77,765,201
Current Taxes and Benefits	$26,683,983
percent	34.3%
Projected New Wages/Salaries	$4,185,783
Projected Taxes and Benefits @ 34.3%	$1,436,290

assembly fiscal.xls\somerville anal

OTHER EXPENSE INCREASES

While the above expense categories comprise the largest expense increases attributable to the Assembly Square project, other City departments will also face new burdens. These include costs for street (and street infrastructure) maintenance, (department of Public Works), recreation programs, public health programs (within Public Safety category), parking enforcement, and property inspections. These costs will generally increase in accordance with increases in population and households, except for street maintenance and public parking expenses, which would increase in proportion to the project's 2.1 percent increase in public road-miles. Collectively, these various categories account for roughly $128,000 in additional expenses.

TOTAL OPERATING EXPENSE INCREASE

Overall, total projected annual operating expenses for the City of Somerville would increase by approximately $5.7 million as a result of the Assembly Square project. This amounts to a 3.6 percent increase over FY 2006 levels.

Summary of Somerville Expense Impact

Department	Current	Increase #	Increase %
General Government	$8,456,034	$55,812	0.7%
Public Safety	$26,045,270	$2,982,337	11.5%
DPW	$17,148,899	$42,020	0.2%
Public Schools	$45,000,000	$1,133,579	2.5%
Culture and Recreation	$2,230,202	$30,027	1.3%
Pension and Fringe	$37,608,323	$1,436,290	3.8%
Debt Service	$6,837,438	$0	0.0%
Other	$12,602,469	$0	0.0%
TOTALS	$155,928,635	**$5,680,066**	3.6%

assembly fiscal.xls\somerville anal

C. SUMMARY OF NET LOCAL FISCAL IMPACTS

Subtracting the $5.7 million in projected expense increases from the $24.3 million in net new revenues, the net annual fiscal impact of the completed Assembly Square project is projected as a gain of approximately $18.6 million.

D. FISCAL IMPACTS OVER TIME

The fiscal impacts calculated in the preceding sections will accrue as the project's various components are developed. In the initial years of development, the revitalized Mall and IKEA constitute the primary development components. Upon completion of IKEA in 2010, these components will incur new municipal costs in excess of new revenues, resulting in net losses of $53,000. As subsequent phases are built, however, by 2012, new revenues will exceed new expenses, generating an annual net benefit of $3.6 million. Net fiscal gains will increase to $6.8 million by 2014; $12.5 million by 2017, and $18.6 million by 2019, when the project's office development components are absorbed. This sequence of cumulative benefits is shown below.

Somerville Fiscal Impacts Over Time

Year	Bldgs	Net Revenue Increase	Expense Increase	Net Gain (Loss)
2010	IKEA, Mall	$1,989,558	$2,042,981	($53,423)
2011		$1,989,558	$2,042,981	($53,423)
2012	F,G,H,B,D	$6,511,329	$2,896,534	$3,614,795
2013		$6,511,329	$2,896,534	$3,614,795
2014	A,C,E	$10,210,139	$3,392,899	$6,817,239
2015	K	$11,783,387	$3,781,367	$8,002,019
2016	I,J	$12,733,646	$3,875,085	$8,858,561
2017	A,L	$17,071,187	$4,603,135	$12,468,052
2018	A	$19,474,641	$4,985,462	$14,489,179
2019	O,M	$24,281,549	$5,680,066	$18,601,483

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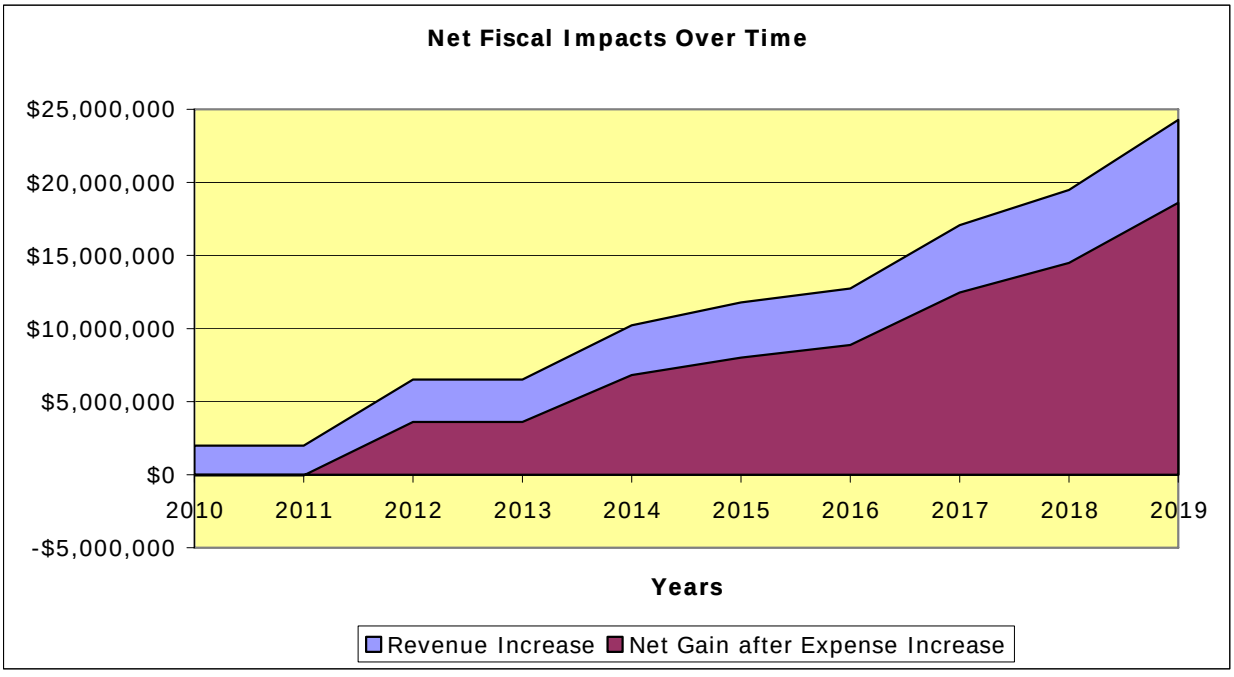

III. ECONOMIC IMPACTS

This section analyzes the employment, wages and output that would be generated by the Assembly Square project. In projecting these impacts, this analysis applies econometric models furnished by the Minnesota IMPLAN Group (IMPLAN), a nationally recognized resource for economic modeling and impact analysis. In the application of these complex models, the analysis projects the impacts of new economic events, or inputs, introduced into the local economy. The spending, hiring and production impacts of these events are applied to the economy's existing businesses and their workers, which in turn apply their own spending, hiring and production patterns, thereby circulating and recirculating money through the local economy. In this analysis the following definitions and assumptions shall apply:

- In discussions of Project impacts, the word "*Output*" refers to productivity, as measured by businesses' gross sales less costs of production.[8]

- *Types of Impacts*: Discussions of Project impacts will use the terms "*direct impacts," "indirect impacts"* and "*induced impacts.*" "Direct impacts" represent the changes affected by the Project itself – e.g., the change in business activity created by the development and occupation of new retail space. "Indirect impacts" represent the new business activity caused by the direct impacts – e.g., the additional purchases made by businesses. "Induced impacts" represent the impacts of new household income and spending (i.e., employee consumption expenditures) generated by the direct and indirect impacts.

The following sections project economic impacts attributable to (1) the construction of the project and (2) the ongoing operation of the project.

A. CONSTRUCTION PHASE IMPACTS

Construction of the Assembly Square project will create employment by virtue of the labor and materials required for construction. These impacts, in turn, generate indirect and induced spending impacts. In contrast to annual "operating phase" impacts, which identify ongoing jobs and output, and wages, these "construction phase" impacts are one-time impacts. In this case, however, the various components of Assembly Square will be phased in over approximately ten years; construction phase impacts will occur over a corresponding time frame.

[8] For retail sectors, output excludes retail markup.

Construction costs form the bases for projecting construction impacts. For the proposed Assembly Square project, construction costs have been estimated by Federal Realty Investment Trust, with adjustments by ZHA, Inc. As shown below, total construction costs (rounded to the nearest $1,000) are estimated at roughly $1.4 billion:

Project Construction Values

Project Component	Cost / unit	Units	Construction Value
Residential			
Rental	$210	791,294 sq. ft.	$166,172,000
Condominium	$240	1,663,235 sq. ft.	$399,176,000
Office	$215	1,750,000 sq. ft.	$376,250,000
Retail*	$150	864,101 sq. ft.	$160,615,000
Lodging	$164,300	200 rms	$32,860,000
Parking	$30,655	8,054 spaces	$246,895,000
IKEA Parking	$20,000	1,550 spaces	$31,000,000
Total			**$1,412,968,000**

* Construction value also includes $31 million for the renovation of Assembly Sq. Mall.

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1. Somerville Construction Impacts

Project construction will occur in a series of phases. While the precise timing of each phase is not known, current projections anticipate that the project's last component will attain stabilized operations by 2019. Based on this projection, the impacts of construction will most likely occur over a time frame of approximately ten years (2009-2018).

Construction impacts are generated by the $1.4 billion anticipated capital investments shown in the preceding table (less the $31 million investment in the Assembly Square Mall; additional construction impacts will not occur). For the City of Somerville, the impacts of these investments will be captured in employment and output in construction, design, and other development-related activity, as well as indirect and induced impacts generated by subcontracting, worker spending, etc.

As shown below, these cumulative total impacts are projected at approximately $2 billion in output, 16,600 jobs, and $959 million in wages.

Construction Impacts*: Somerville

Impact Type	Direct	Indirect	Induced	Total
Output	$1,381,968,000	$282,573,000	$373,993,000	$2,038,534,000
Employment	11,267	2,267	3,108	16,643
Labor Income	$704,897,000	$128,598,000	$125,251,000	$958,746,000

* Excludes $31 million renovation/construction cost (output) for Assembly Square Mall.

Source: Minnesota IMPLAN Group; Federal Realty Investment Trust; ZHA, Inc.
Implan results.xls\constru

Over the project's various construction phases, the above cumulative impacts will be distributed as shown in the following table. In general, the largest impacts will be exerted in 2011 and 2013, when construction is anticipated for substantial residential and retail (as well as the lodging and theater) components.

Somerville Construction Impacts Over Time

Year	Bldgs	Output	Employment	Labor Income
2009	IKEA	$157,118,570	1,283	$73,894,672
2010		$0	0	$0
2011	F,G,H,B,D	$501,959,403	4,098	$236,077,284
2012		$0	0	$0
2013	A,C,E	$581,670,011	4,749	$273,566,100
2014	K	$147,288,334	1,202	$69,271,398
2015	I,J	$91,306,230	745	$42,942,371
2016	A,L	$278,839,598	2,276	$131,141,472
2017	A	$95,165,308	777	$44,757,340
2018	O,M	$185,186,546	1,512	$87,095,364
Totals		$2,038,534,000	16,643	$958,746,000

Source: Minnesota IMPLAN Group; ZHA, Inc.
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2. Massachusetts Construction Impacts

Employment and spending resulting from project construction will generate output, jobs, and employment beyond the Somerville community. The direct impacts – construction, construction workers, and construction wages – will all be captured within the City, and are excluded from this discussion; indirect and induced impacts, however, will extend throughout the region and state.

The table below shows the project's indirect and induced impacts on the State of Massachusetts, excluding those impacts already shown for the City of Somerville. As shown, total non-Somerville impacts on the state are projected at $474 million in output, nearly 4,200 jobs, and $189 million in wages and salaries. In general, these amount to less than 25 percent of the local impacts shown previously; Somerville would capture approximately 80 percent of the construction impacts.

Non-Local Construction Impacts: State of Massachusetts

	Indirect	Induced	Total
Output	$151,827,000	$322,547,000	$474,374,000
Employment	1,262	2,927	4,189
Labor Income	$61,023,000	$128,395,000	$189,418,000

Source: Minnesota IMPLAN Group; Federal Realty Investment Trust; ZHA, Inc.

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Over the total project construction period, as in Somerville, the largest state-wide impacts would occur in 2011 and 2013.

Massachusetts Non-Local Construction Impacts Over Time

Year	Bldgs	Output	Employment	Labor Income
2009	IKEA	$36,562,041	323	$14,599,259
2010		$0	0	$0
2011	F,G,H,B,D	$116,807,711	1,031	$46,641,433
2012		$0	0	$0
2013	A,C,E	$135,356,648	1,195	$54,048,041
2014	K	$34,274,511	303	$13,685,846
2015	I,J	$21,247,279	188	$8,484,059
2016	A,L	$64,886,951	573	$25,909,423
2017	A	$22,145,301	196	$8,842,640
2018	O,M	$43,093,558	381	$17,207,300
Totals		$474,374,000	4,189	$189,418,000

Source: Minnesota IMPLAN Group; ZHA, Inc.
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B. OPERATING PHASE IMPACTS

In calculating ongoing, operating phase impacts, the first step is to calculate project's direct employment impacts. The IMPLAN model then calculates the associated output and labor incomes associated with these inputs, as well as the indirect and induced impacts. This section identifies the project's direct employment impacts, and then presents total direct, indirect and induced impacts for Somerville as well as the State of Massachusetts.

1. Inputs

Direct, on-site employment generated by the Assembly Square project is as follows:

- *Retail component*: Projected retail employment is estimated at 2,395. This estimate is based on an understanding of anticipated anchor and in-line tenancies, general retail center standards, and considerations and reconciliations of prevailing space/worker ratios and sales/worker ratios in the various retail sectors. As shown below, the IKEA furnishings store would comprise the single largest employer; the anticipated cinema would generate the lowest employment.[9]

[9] The cinema employment, while shown in the table is excluded from the analysis. This is because, as explained previously in footnote 1, such employment would not represent net new jobs to the City.

Projected Retail Employment*

Store Type	Final Space Allocation %	# (sq. ft.)	Workers
Apparel	8.7%	95,000	250
Food/grocery	5.4%	59,400	140
Furnishings	36.2%	398,000	475
Cinema	5.6%	62,000	20
Gen. Merch.	9.1%	100,000	150
Eating/drinking	6.8%	75,000	600
sport/book/hobby	15.5%	170,000	500
drug	1.8%	20,000	50
Electronic	6.8%	75,000	150
Misc/office	2.0%	21,800	60
Total	98.0%	1,076,200	2,395

* Excludes K-Mart employment.

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- *Office component*: The project's 1.75 million square feet of office space would employ an estimated 7,240 workers. This is based on general space/worker ratios, with space and workers allocated among a mix of industry sectors including: financial/insurance/real estate services, research and development, software development, advertising, data/back office services, health services, legal services, engineering/design, and business associations.

- *Lodging component*: Lodging impacts include 220 workers, applying a reasonable ratio of 1.1 workers per room for the anticipated 200-room facility. Impacts of visitor spending are excluded. Such spending within Somerville – primarily on meals – would be highly speculative; moreover, much of this effect would already be captured in the direct impacts attributable to the project's retail component.

- *Residential component*: These impacts are attributable to new household spending in the local economy. For the apartment units, this spending is based on an average household disposable income level of $60,000; for the condominium units, the average disposable income is assumed at $75,000.

  It should be noted that, in the analysis of local Somerville impacts, this analysis incorporates the following adjustments to new household impacts:

  - Before input into the IMPLAN model, household spending units were reduced by 5 percent, to account for vacancies among the units;

- An additional reduction of 15 percent (16 percent of 95 percent[10]) was made to account for those households likely to be working for Assembly Square businesses or elsewhere in Somerville. These households are excluded because their spending is already included in the induced impacts (spending by employees) of the project's commercial components.

- IMPLAN outputs were further reduced to exclude all retail impacts derived from new household spending. This is because these impacts are already counted among the project's direct retail impacts.

State Residential Component Adjustment: In the analysis of state-level impacts, inputs exclude *all* new household spending. This is because most new residents would be moving from within the state, and therefore would not represent net new spending for Massachusetts. Also, to the extent that such immigrants have moved from out-of-state to pursue employment created (directly or indirectly) by the project, the spending of these new households would be already included in the induced impacts of the project's other components.

2. Somerville Operating Phase Impacts

The table below summarizes the annual ongoing output, employment and wage/salary impacts generated by the Assembly Square project. As shown, the project will generate direct impacts of $1.4 billion in output, 10,235 jobs, and $587 million in new wages and salaries.

As a result of these direct impacts, the project will "spin off" additional indirect and induced impacts amounting to $586 million in output, 4,600 jobs and $212 million in labor income. These will bring total impacts to $2 billion in annual output, 14,800 jobs and $798 million in annual wages and salaries.

[10] This represents the proportion of Somerville residents working within Somerville as reported in the 2000 U.S. Census.

SUMMARY OF ANNUAL ECONOMIC IMPACTS: CITY OF SOMERVILLE

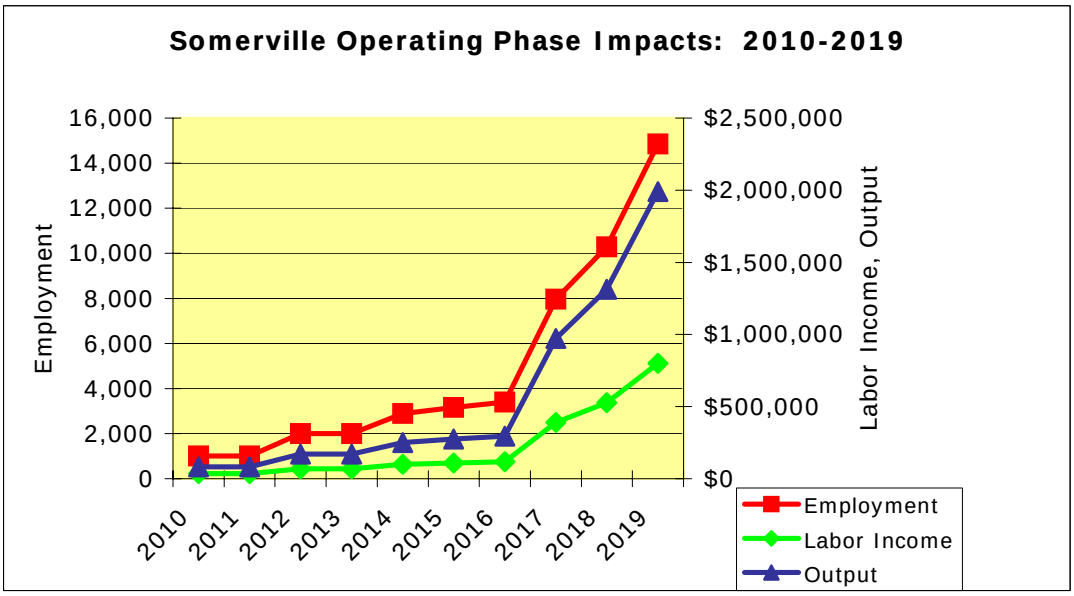
	Retail	Office	Hotel	Apartment	Condominium	Total
DIRECT IMPACTS						
Output	$155,689,000	$1,175,737,000	$19,602,000	$15,029,000	$38,471,000	$1,404,528,000
Employment	2,375	7,240	220	112	288	10,235
Labor Income	$71,313,000	$491,198,000	$7,908,000	$4,615,000	$11,812,000	$586,846,000
INDIRECT AND INDUCED IMPACTS						
Output	$57,255,000	$502,726,000	$7,643,000	$5,126,000	$13,121,000	$585,871,000
Employment	431	3,980	58	40	102	4,612
Labor Income	$19,835,000	$182,710,000	$2,721,000	$1,791,000	$4,583,000	$211,640,000
TOTAL IMPACTS						
Output	$212,944,000	$1,678,463,000	$27,245,000	$20,155,000	$51,592,000	$1,990,399,000
Employment	2,806	11,220	278	152	390	14,846
Labor Income	$91,148,000	$673,908,000	$10,629,000	$6,406,000	$16,395,000	$798,486,000

Source: Minnesota IMPLAN Group; ZHA, Inc.

Implan results.xls\impact sum

3. Somerville Operating Phase Impacts Over Time

Measured over time, cumulative operating impacts would accrue gradually from 2010 through 2016, and then increase sharply as the project's office components are developed. The office jobs contained in these buildings would generate relatively high output as well as compensation; accordingly, the cumulative economic impacts would accelerate during these latter phases of development. The following tables and charts show the timing of these cumulative annual impacts.



Cumulative Employment Impacts By Year
City of Somerville

Phase	Year		Total Direct	Total Indir. / Induced	TOTAL
		Bldgs			
	2005	Mall	445	76	521
	2010	IKEA	845	166	1,011
	2011		845	166	1,011
IA,B	2012	F,G,H,B,D	1,658	341	1,999
	2013		1,658	341	1,999
II	2014	A,C,E	2,389	505	2,894
III	2015	K	2,600	557	3,157
IV	2016	I,J	2,799	598	3,396
V, VI	2017	A,L	5,762	2,202	7,964
VI	2018	A	7,275	3,009	10,283
VI	2019	O,M	10,235	4,612	14,846

Source: Minnesota IMPLAN Group; ZHA, Inc.

implan results\over time

Cumulative Labor Income Impacts By Year ($000s)
City of Somerville

Phase	Year		Total Direct	Total Indir./Induced	TOTAL
		Bldgs			
	2005	Mall	$13,025	$3,505	$16,530
	2010	IKEA	$27,881	$7,686	$35,567
	2011		$27,881	$7,686	$35,567
IA,B	2012	F,G,H,B,D	$53,425	$15,615	$69,039
	2013		$53,425	$15,615	$69,039
II	2014	A,C,E	$77,108	$23,140	$100,248
III	2015	K	$83,982	$25,553	$109,534
IV	2016	I,J	$90,069	$27,394	$117,462
V, VI	2017	A,L	$288,477	$101,009	$389,486
VI	2018	A	$388,542	$138,053	$526,595
VI	2019	O,M	$586,846	$211,640	$798,486

Source: Minnesota IMPLAN Group; ZHA, Inc.
implan results\over time

Cumulative Output Impacts By Year ($000s)
City of Somerville

Phase	Year		Total Direct	Total Indir./Induced	TOTAL
		Bldgs			
	2005	Mall	$27,537	$9,991	$37,528
	2010	IKEA	$60,851	$21,875	$82,726
	2011		$60,851	$21,875	$82,726
IA,B	2012	F,G,H,B,D	$124,962	$44,864	$169,826
	2013		$124,962	$44,864	$169,826
II	2014	A,C,E	$183,264	$66,453	$249,717
III	2015	K	$201,859	$73,309	$275,167
IV	2016	I,J	$216,672	$78,656	$295,328
V, VI	2017	A,L	$691,157	$281,299	$972,456
VI	2018	A	$930,269	$383,313	$1,313,582
VI	2019	O,M	$1,404,528	$585,872	$1,990,400

Source: Minnesota IMPLAN Group; ZHA, Inc.
implan results\over time

When all operating and construction phase impacts are combined, construction impacts create peaks in years of high construction activity, most notably 2011 and 2013. After these peaks, starting in 2014, output, employment and labor income all increase steadily, reaching their peak levels in 2019.

SOMERVILLE COMBINED CONSTRUCTION and OPERATING PHASE IMPACTS OVER TIME			
	Output	Employment	Labor Income
2009	$194,646,351	1,804	$90,424,890
2010	$82,726,383	1,011	$35,566,906
2011	$584,685,785	5,109	$271,644,190
2012	$169,826,487	1,999	$69,039,104
2013	$751,496,498	6,748	$342,605,204
2014	$397,005,329	4,096	$169,519,600
2015	$366,473,632	3,903	$152,476,471
2016	$574,167,801	5,673	$248,603,885
2017	$1,067,621,631	8,741	$434,243,171
2018	$1,498,768,438	11,795	$613,690,232
2019	$1,990,400,061	14,846	$798,485,506

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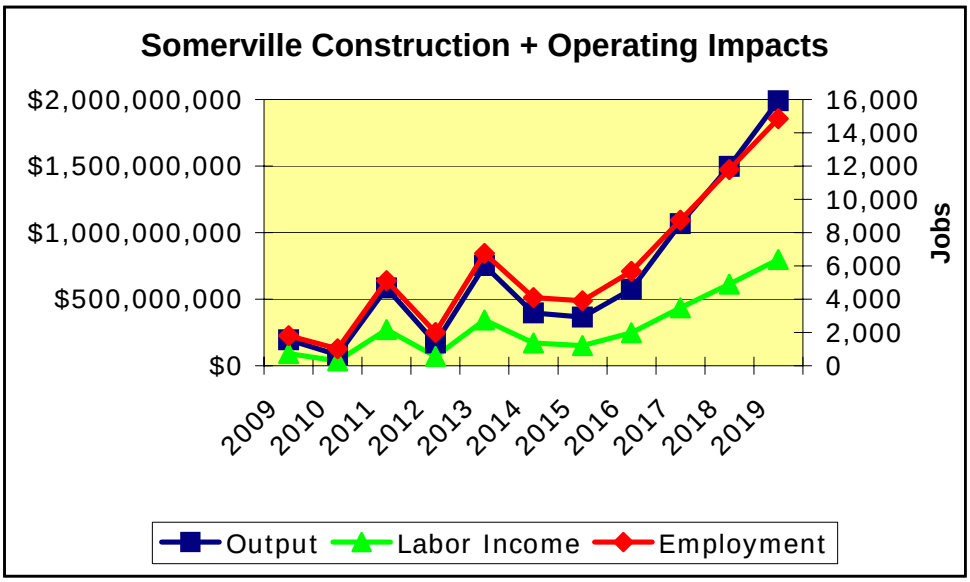


4. Massachusetts Operating Phase Impacts

While the project's direct operating phase impacts will be captured within the City of Somerville. The project's indirect and induced economic activity, however, will flow beyond Somerville's borders. Summarized in the following table, these

indirect and induced impacts (excluding all local impacts shown previously) amount to: $491 million in output, 4,200 jobs, and $201 million in wages and salaries.

Annual Non-Local Operating Impacts: State of Massachusetts

	Retail	Office	Hotel	Total
INDIRECT IMPACTS				
Output	$12,531,000	$166,706,000	$1,536,000	$180,773,000
Employment	82	1,372	10	1,465
Labor Income	$4,680,000	$73,415,000	$608,000	$78,703,000
INDUCED IMPACTS				
Output	$26,263,000	$280,568,000	$3,581,000	$310,412,000
Employment	231	2,480	31	2,742
Labor Income	$10,587,000	$109,815,000	$1,421,000	$121,823,000
TOTAL IMPACTS				
Output	$38,794,000	$447,274,000	$5,117,000	$491,185,000
Employment	313	3,852	41	4,207
Labor Income	$15,267,000	$183,230,000	$2,029,000	$200,526,000

Source: Minnesota IMPLAN Group; ZHA, Inc.

Implan results.xls\impact sum

Combining the above impacts with the impacts captured locally in Somerville, total statewide impacts amount to roughly $2.5 billion in output, 19,000 jobs, and $1 billion in new wages and salaries. It should be noted that these figures exclude the impacts of new residential spending: as explained earlier, while some of these impacts will be felt in the Somerville community, these household expenditures would for the most part be (1) not new to the state; or (2) included within the other impacts of the project's commercial components.

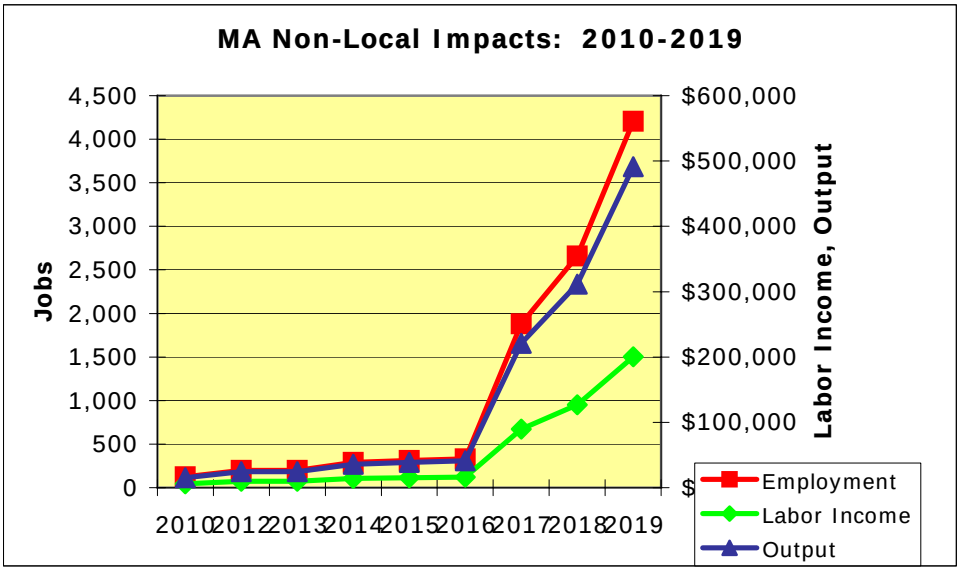
Total Statewide Impacts
(including local impacts)

TOTAL SOMERVILLE IMPACTS	
Output	$1,990,399,000
Employment	14,846
Labor Income	$798,486,000
STATE IMPACTS	
Output	$491,185,000
Employment	4,207
Labor Income	$200,526,000
TOTALS (incl. Local impacts)	
Output	$2,481,584,000
Employment	19,053
Labor Income	$999,012,000

Source: Minnesota IMPLAN Group; ZHA, Inc.
implan results\impact sum

5. Massachusetts Operating Phase Impacts Over Time

Cumulative operating impacts for Massachusetts follow a pattern similar to that for impacts on Somerville. Owing to the currently anticipated phasing of office development, impacts will be strongest during the years after 2016.



Non-Local Employment Impacts By Year
State of Massachusetts

Phase	Year		Retail	Office	Lodging	Total
		Bldgs				
	2005	Mall	48	0	0	48
	2010	IKEA	124	0	0	124
	2011		124	0	0	124
IA,B	2012	F,G,H,B,D	198	0	0	198
	2013		198	0	0	198
II	2014	A,C,E	247	0	41	289
III	2015	K	271	0	41	312
IV	2016	I,J	290	0	41	331
V, VI	2017	A,L	298	1,543	41	1,883
VI	2018	A	306	2,315	41	2,662
VI	2019	O,M	313	3,859	41	4,213

Source: Minnesota IMPLAN Group; ZHA, Inc.

implan results\state over time

Non-Local Labor Income Impacts By Year ($000s)
State of Massachusetts

Phase	Year		Retail	Office	Lodging	Total
		Bldgs				
	2005	Mall	$2,347	$0	$0	$2,347
	2010	IKEA	$6,116	$0	$0	$6,116
	2011		$6,116	$0	$0	$6,116
IA,B	2012	F,G,H,B,D	$9,675	$0	$0	$9,675
	2013		$9,675	$0	$0	$9,675
II	2014	A,C,E	$12,040	$0	$2,029	$14,069
III	2015	K	$13,204	$0	$2,029	$15,233
IV	2016	I,J	$14,139	$0	$2,029	$16,168
V, VI	2017	A,L	$14,529	$73,412	$2,029	$89,970
VI	2018	A	$14,898	$110,118	$2,029	$127,045
VI	2019	O,M	$15,268	$183,530	$2,029	$200,827

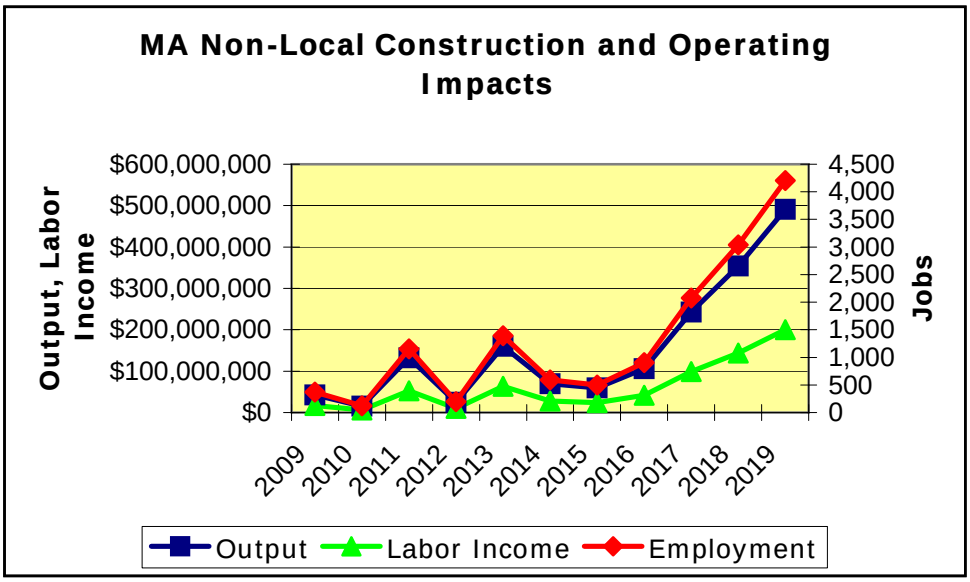
Source: Minnesota IMPLAN Group; ZHA, Inc.
implan results\state over time

Non-Local Output Impacts By Year ($000s)
State of Massachusetts

Phase	Year		Retail	Office	Lodging	Total
		Bldgs				
	2005	Mall	$5,710	$0	$0	$5,710
	2010	IKEA	$15,121	$0	$0	$15,121
	2011		$15,121	$0	$0	$15,121
IA,B	2012	F,G,H,B,D	$24,371	$0	$0	$24,371
	2013		$24,371	$0	$0	$24,371
II	2014	A,C,E	$30,519	$0	$5,117	$35,636
III	2015	K	$33,430	$0	$5,117	$38,547
IV	2016	I,J	$35,860	$0	$5,117	$40,977
V, VI	2017	A,L	$36,874	$178,910	$5,117	$220,901
VI	2018	A	$37,834	$268,364	$5,117	$311,315
VI	2019	O,M	$38,793	$447,274	$5,117	$491,184

Source: Minnesota IMPLAN Group; ZHA, Inc.
implan results\state over time

As in Somerville, when all non-local operating and construction phase impacts are combined, construction impacts create peaks in years of high construction activity, most notably 2011 and 2013. After these peaks, starting in 2014, output, employment and labor income all increase steadily, reaching their peak levels in 2019.



MA NON-LOCAL COMBINED CONSTRUCTION and OPERATING PHASE IMPACTS OVER TIME

	Output	Employment	Labor Income
2009	$42,271,929	370	$16,946,586
2010	$15,120,776	124	$6,115,877
2011	$131,928,487	1,156	$52,757,310
2012	$24,371,223	198	$9,674,933
2013	$159,727,872	1,393	$63,722,974
2014	$69,910,123	591	$27,754,951
2015	$59,794,293	500	$23,717,212
2016	$105,863,710	904	$42,077,406
2017	$243,046,020	2,076	$98,692,893
2018	$354,408,692	3,039	$144,072,758
2019	$491,184,349	4,207	$200,526,665

implan results\state over time

6. State Revenues

While this analysis does not include a full analysis of state expense impacts, in regard to revenues, the IMPLAN model forecasts that by 2019, the State would derive $64.7 million in new annual sales and income taxes. These revenues include sales and revenues derived from the project's ongoing operations.

Massachusetts Operations-Derived Sales and Income Tax Impacts

	Sales	Personal Income	Subtotal
Retail	$8,409,344	$2,796,438	$11,205,782
Office	$27,219,449	$25,255,292	$52,474,741
Lodging[1]	$624,012	$349,252	$973,264
Total	$36,252,805	$28,400,982	**$64,653,787**

[1] Excludes local lodging sales taxes.

Source: Minnesota IMPLAN Group; ZHA, Inc.
Implan results.xls\st revs

In addition to operations-derived revenues, over time the state would also derive new revenues from construction activities. Construction-derived revenues would peak in 2011 and 2013, when high levels of construction activity are anticipated. Smaller peaks would occur in 2016 and 2108. Operations-derived revenues would increase as development phases are completed, with the most rapid increases occurring in the project's last three years.

Overall, as shown in the following table and chart, new state revenues would vary in accordance with anticipated levels of construction activity. After 2016, however, increased sales and income taxes derived from ongoing operations would increase total revenue benefits from $35.6 million in 2016 to $64.7 million by 2019. Upon completion of the project, annual state revenue benefits would fluctuate only in accordance with changing project occupancies and tax policies; given stability in these factors, state revenue benefits would remain stable at 2019 levels.

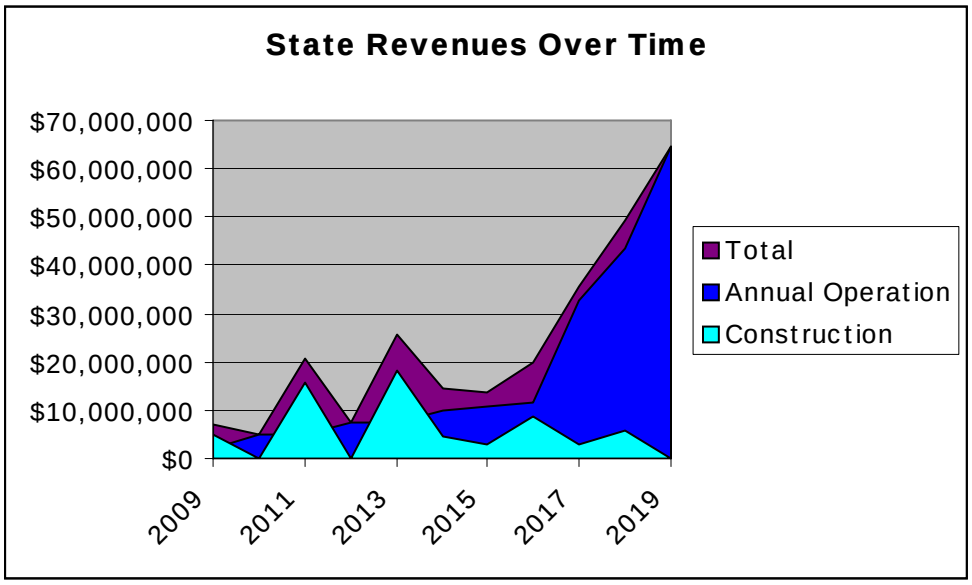
State of Massachusetts Revenue Impacts by Year

	Construction			Operations			Totals		
Year	Sales	Income	Subtotal	Sales	Income	Subtotal	Sales	Income	**TOTAL**
2009	$2,220,181	$2,669,989	$4,890,170	$1,597,512	$478,179	$2,075,691	$3,817,693	$3,148,168	$6,965,861
2010	$0	$0	$0	$3,808,930	$1,108,222	$4,917,152	$3,808,930	$1,108,222	$4,917,152
2011	$7,092,992	$8,530,029	$15,623,021	$3,808,930	$1,108,222	$4,917,152	$10,901,922	$9,638,251	$20,540,173
2012	$0	$0	$0	$5,620,296	$1,781,568	$7,401,863	$5,620,296	$1,781,568	$7,401,863
2013	$8,219,352	$9,884,588	$18,103,940	$5,620,296	$1,781,568	$7,401,863	$13,839,647	$11,666,156	$25,505,803
2014	$2,081,274	$2,502,939	$4,584,213	$7,448,052	$2,578,292	$10,026,343	$9,529,325	$5,081,231	$14,610,556
2015	$1,290,213	$1,551,609	$2,841,822	$7,983,141	$2,755,290	$10,738,430	$9,273,353	$4,306,899	$13,580,252
2016	$3,940,173	$4,738,451	$8,678,624	$8,458,918	$2,932,152	$11,391,071	$12,399,092	$7,670,603	$20,069,695
2017	$1,344,744	$1,617,188	$2,961,932	$19,545,324	$13,108,105	$32,653,429	$20,890,068	$14,725,293	$35,615,361
2018	$2,616,799	$3,146,961	$5,763,760	$25,177,120	$18,229,014	$43,406,134	$27,793,918	$21,375,975	$49,169,893
2019	$0	$0	$0	$36,252,805	$28,400,982	$64,653,787	$36,252,805	$28,400,982	**$64,653,787**

*Excludes impacts derived from K-Mart.

Source: Minnesota IMPLAN Group; ZHA, Inc.

implan results\st revs



F:\60010 Somerville\assembly impacts sept.doc

H

Design Intent

Assembly Square

October 30, 2006

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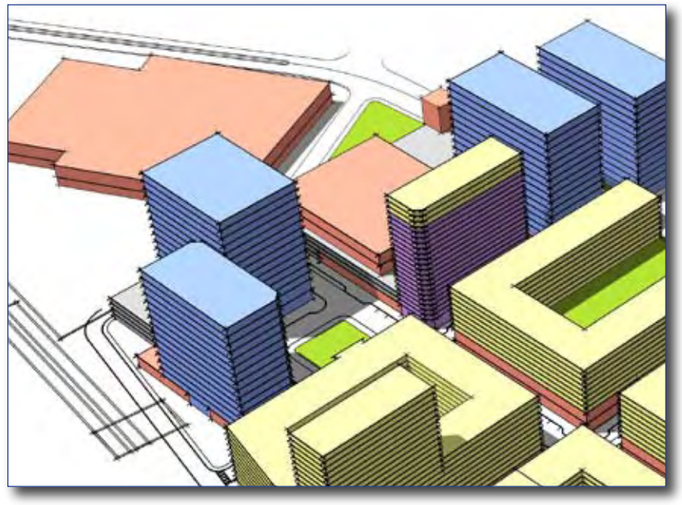
Development and Consulting Group

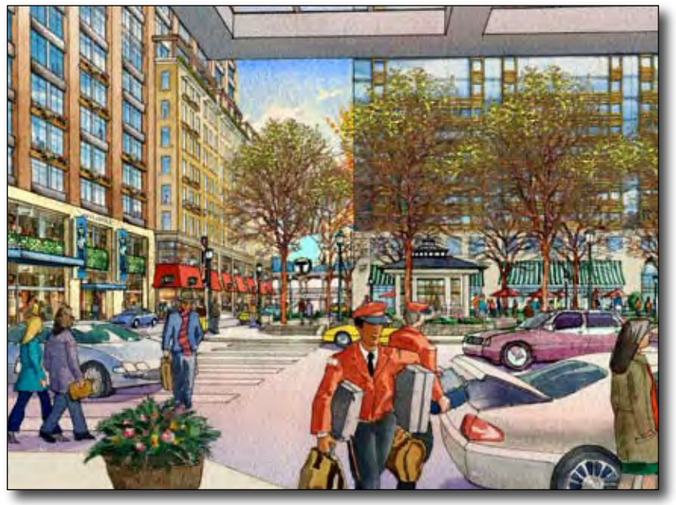
Overview

- **Improve access to the water**

- **Transit-oriented plan**

- **Mixed-use program**
  - 1.75 million sf office
  - 450,000 sf retail
  - 2,100 units of residential
  - 200 room hotel
  - cinemas





- **New pedestrian oriented public places**

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Somerville has been landlocked

- Somerville is the most landlocked city in the Boston Area
- I-93 further cuts off Somerville from the Mystic River

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Existing access to the Mystic River is poor

- Access to the Riverfront is poor

- Access to Draw 7 Park is confusing and unpleasant

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The Site

- The Assembly Square District is compact and walkable
- Opportunities for transit access
- The district is cut off from the rest of Somerville by major transportation infrastructure

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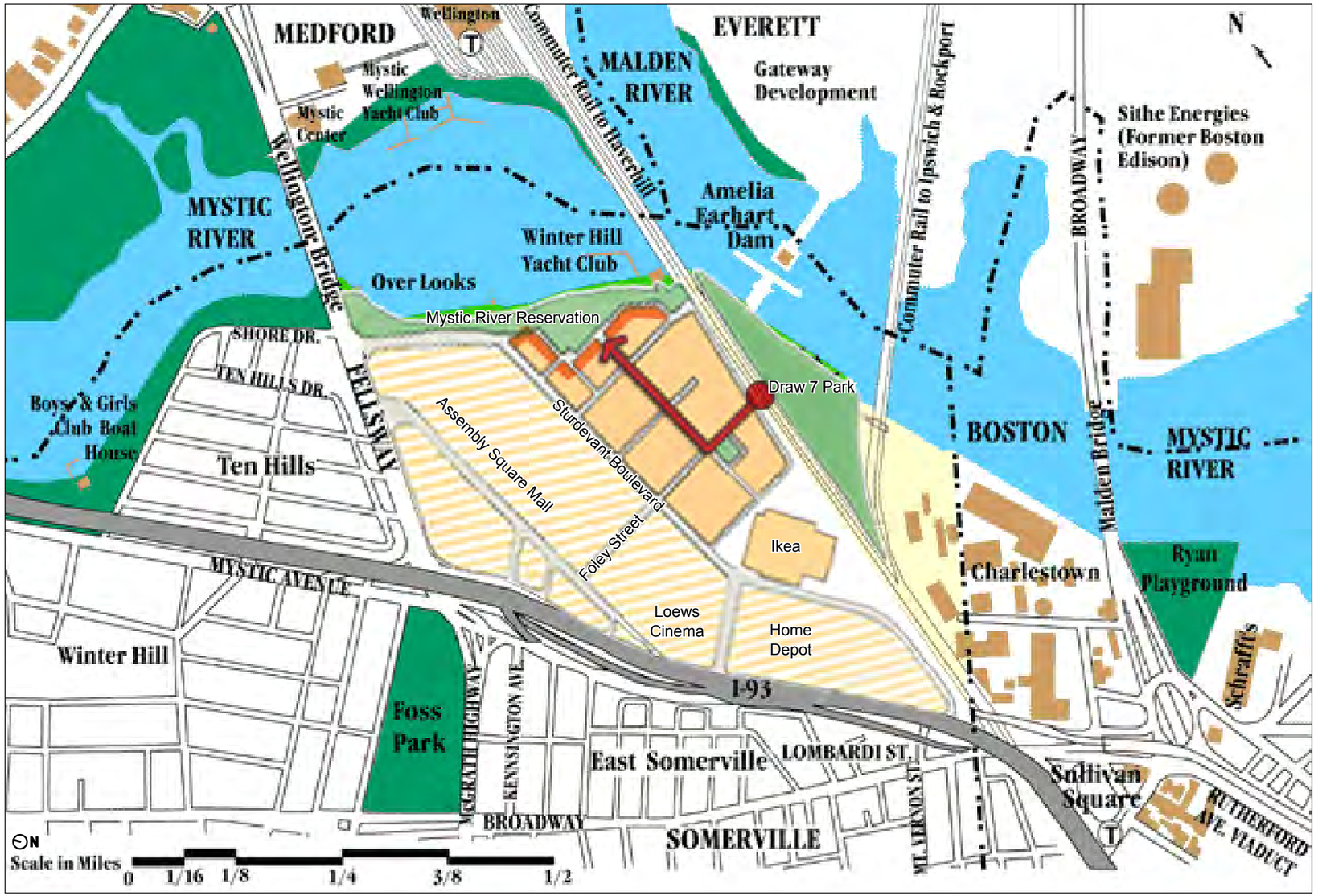
Assembly Square will continue the revitalization of the Mystic River waterfront

- Assembly Square will bring vitality to the Mystic River waterfront by:
  - Providing improved access
  - An active edge



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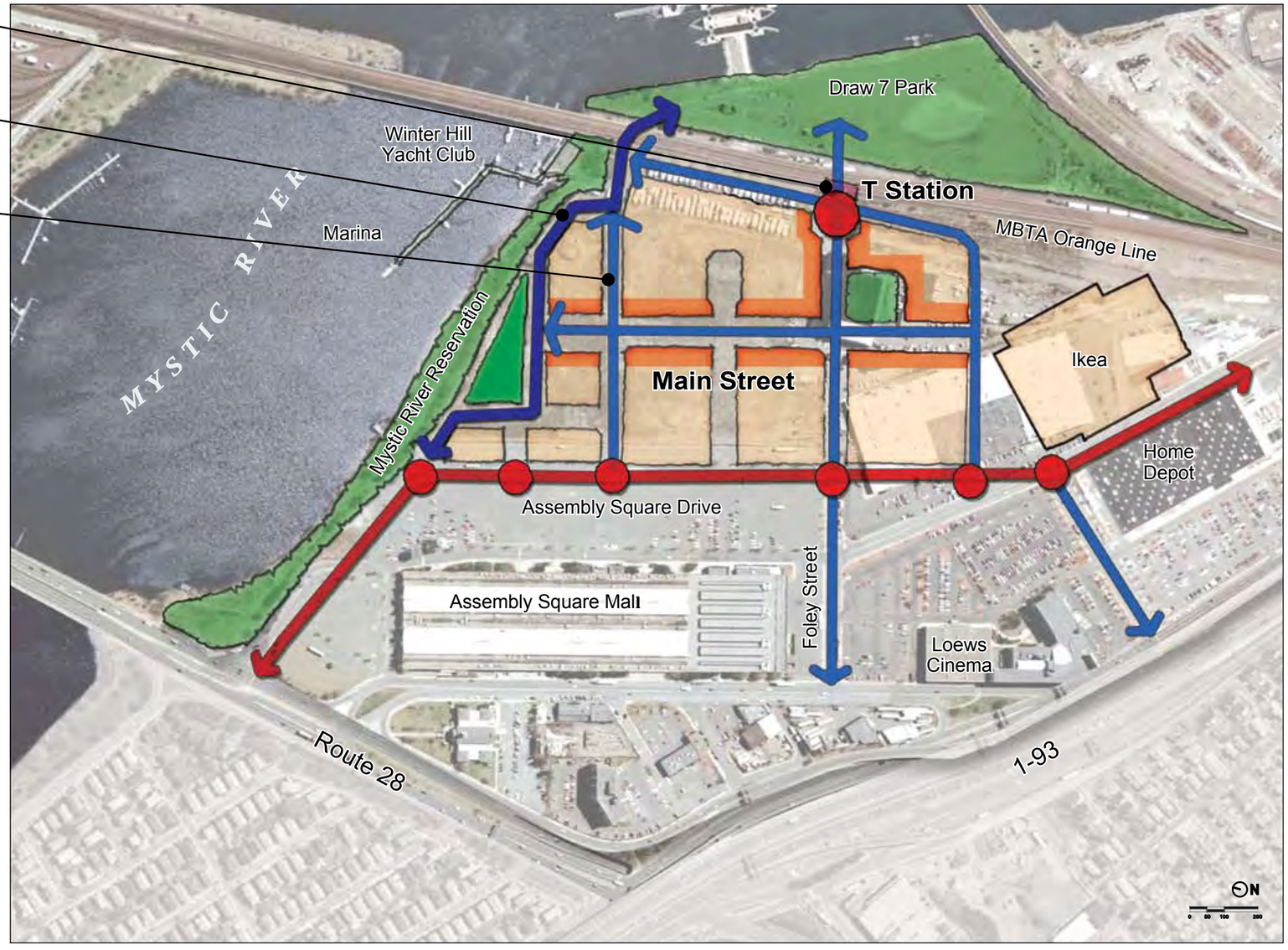
Improving access to the Mystic River

- Transit-friendly planning will allow people to ***take the T to the riverfront***
- A ***new road along the river*** will open the river and improve access to Draw 7 Park
- A new pedestrian-oriented mixed-use ***main street leads to the River***



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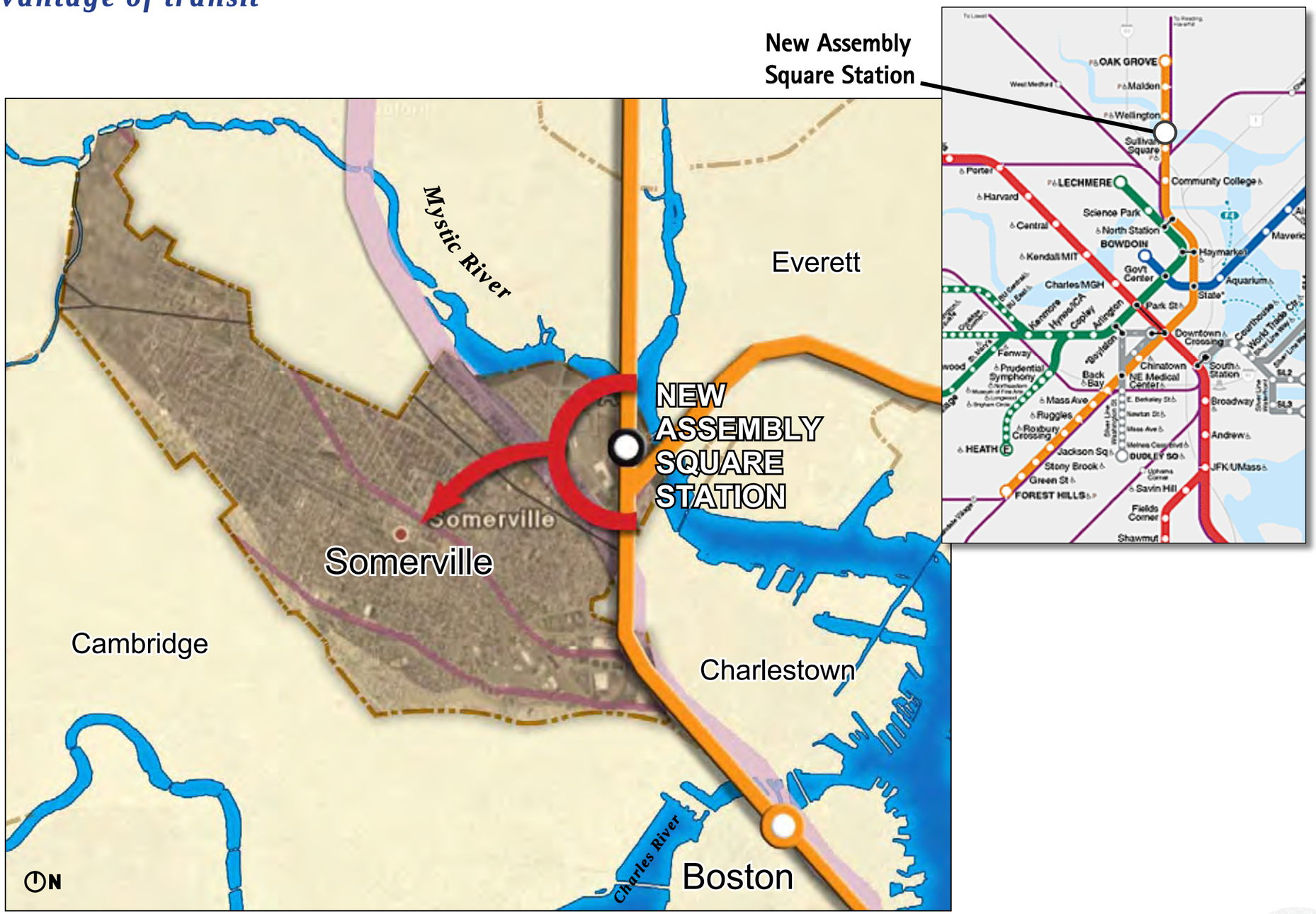
Ideally located to take advantage of transit

- A ***new Station along the Orange Line*** is partially funded and projected to come on-line in 2015
- The new Station is minutes away from Downtown Crossing and is ***highly accessible for commuting into – or out of Assembly Square.***



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A transit-oriented community

- The plan encourages transit to lessen the amount of traffic in the area and beyond by:
  - Clustering the ***highest density closer to the new T station***
  - The new T Station will ***improve pedestrian access*** to Draw 7 Park
  - Locating the entire Assembly Square mixed-use community within a ***five-minute walk of the T station***
  - Including a place for ***Kiss 'n ride, but not Park n' ride***
  - Creating Active ***pedestrian-oriented streets leading to the T Station***

Ruggles Street Station

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A pedestrian-oriented street and block pattern

- The plan breaks up the large areas of land into a grid, with a ***pedestrian-scaled street*** and block pattern
- ***Smaller-scale blocks along the river***
- ***The blocks are flexible*** enough to accommodate different uses
- The grid is a product of ***street widths and building requirements***
- ***Frequent East-West Streets*** are provided for connections to future development

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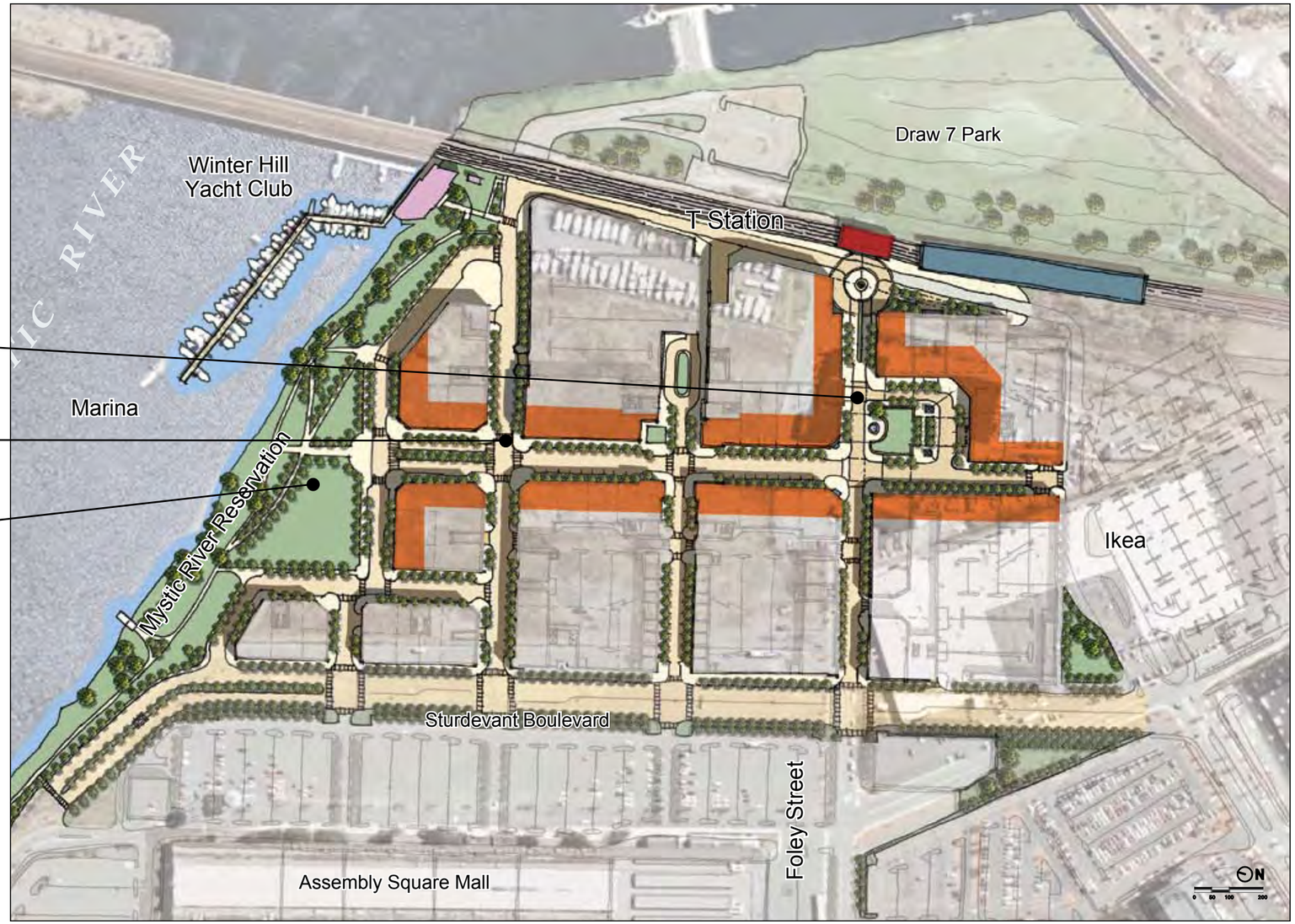
Great Public Spaces

- The new community is oriented around ***great streets and great public places:***
  - Assembly Square
  - Main Street
  - Mystic River Common



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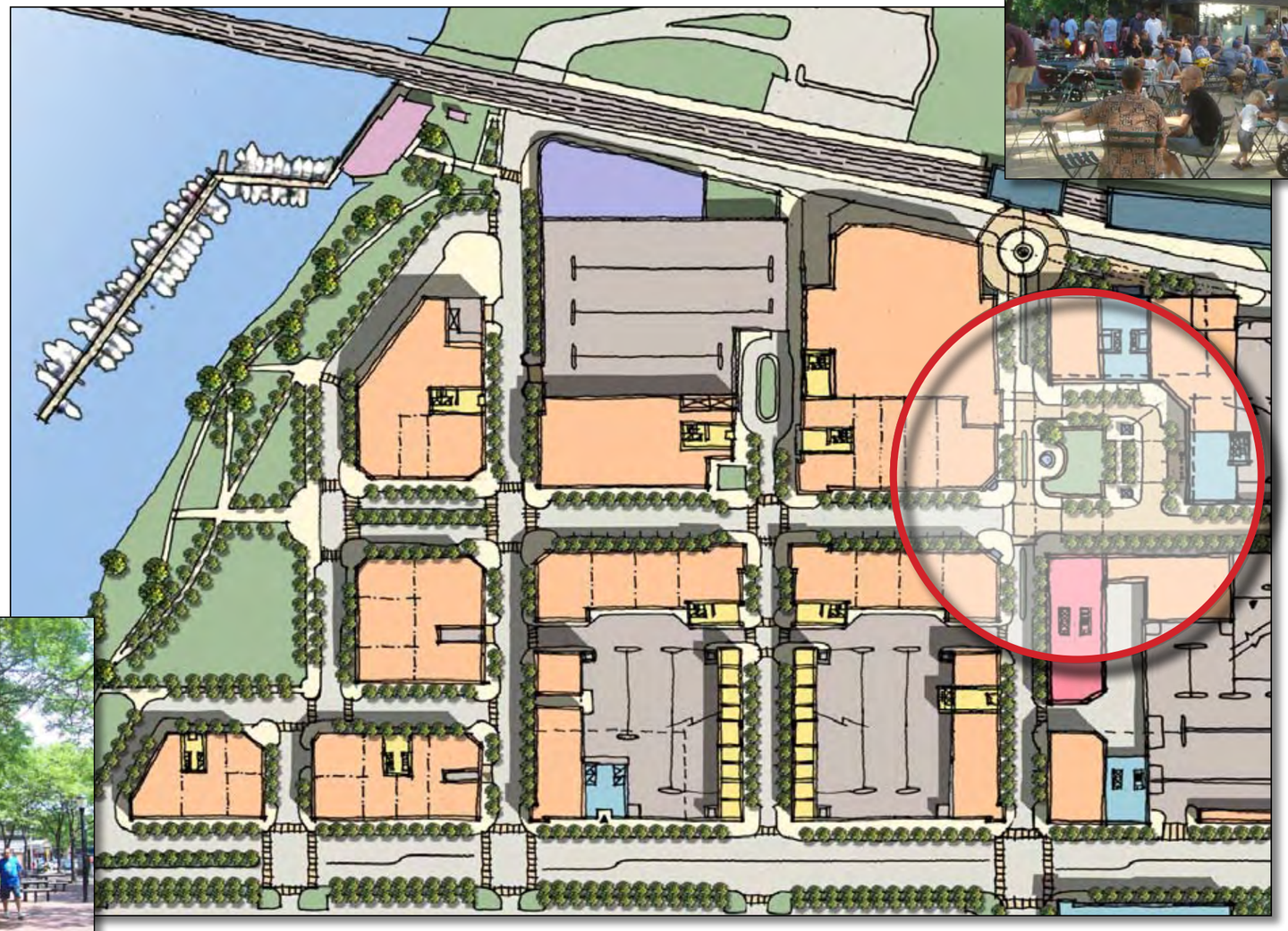
Great Public Spaces: Assembly Square

- **A place of arrival** – anchored by the new Orange Line T Station
- A public space activated by **a diverse mix of uses**: offices, retail, restaurants, entertainment, together with residential and hotel
- **An urban oasis** – with places for sitting and passive recreation
- **An urban crossroads** active daytime and night; weekdays and weekends

Madison Square Park



Davis Square

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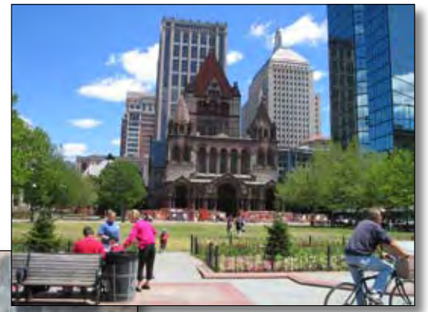
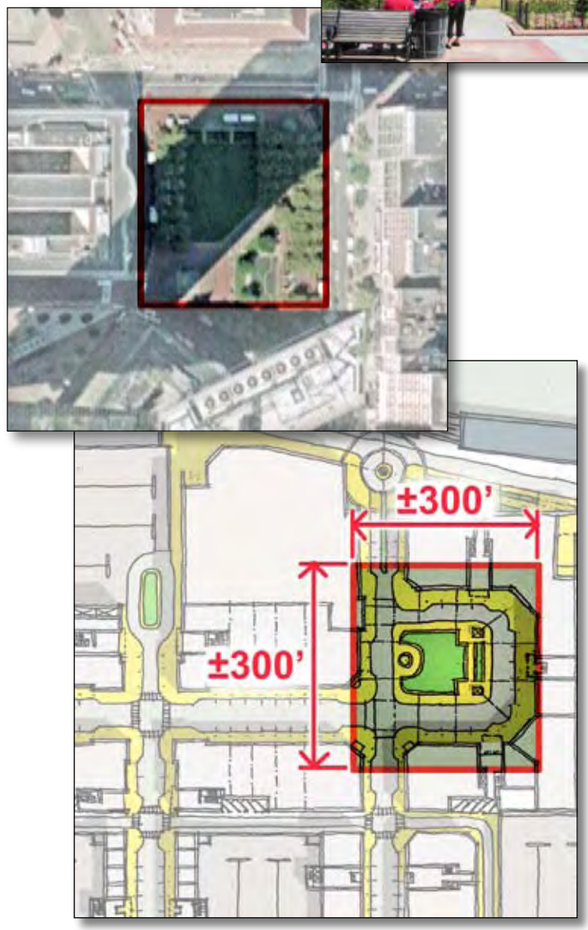
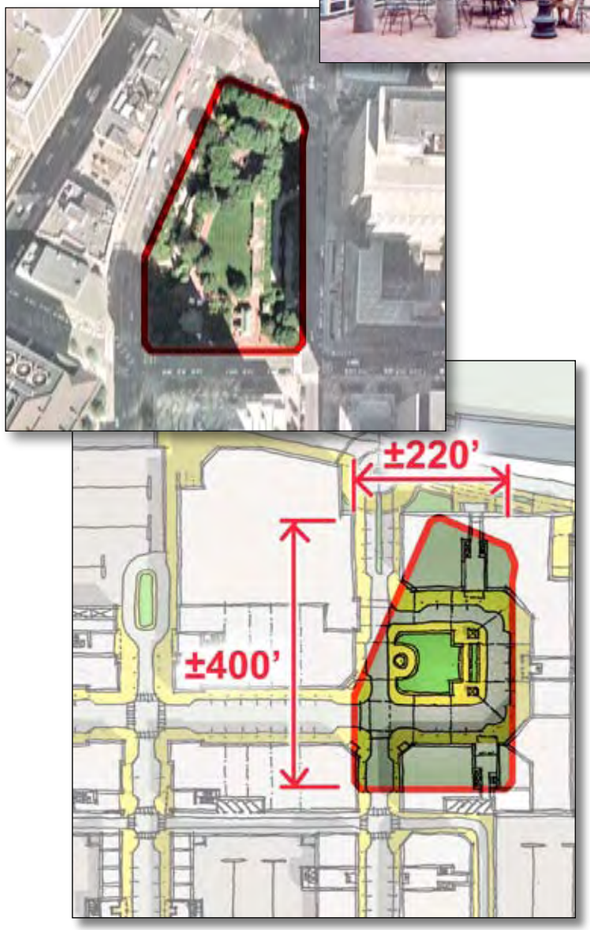
Assembly Square in context

Copley Square

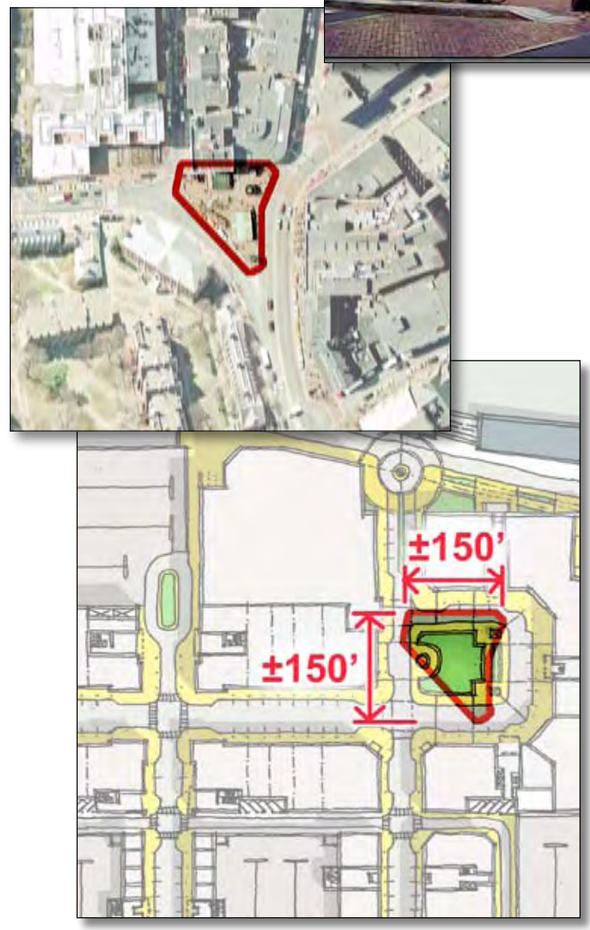




Post Office Square



Harvard Square



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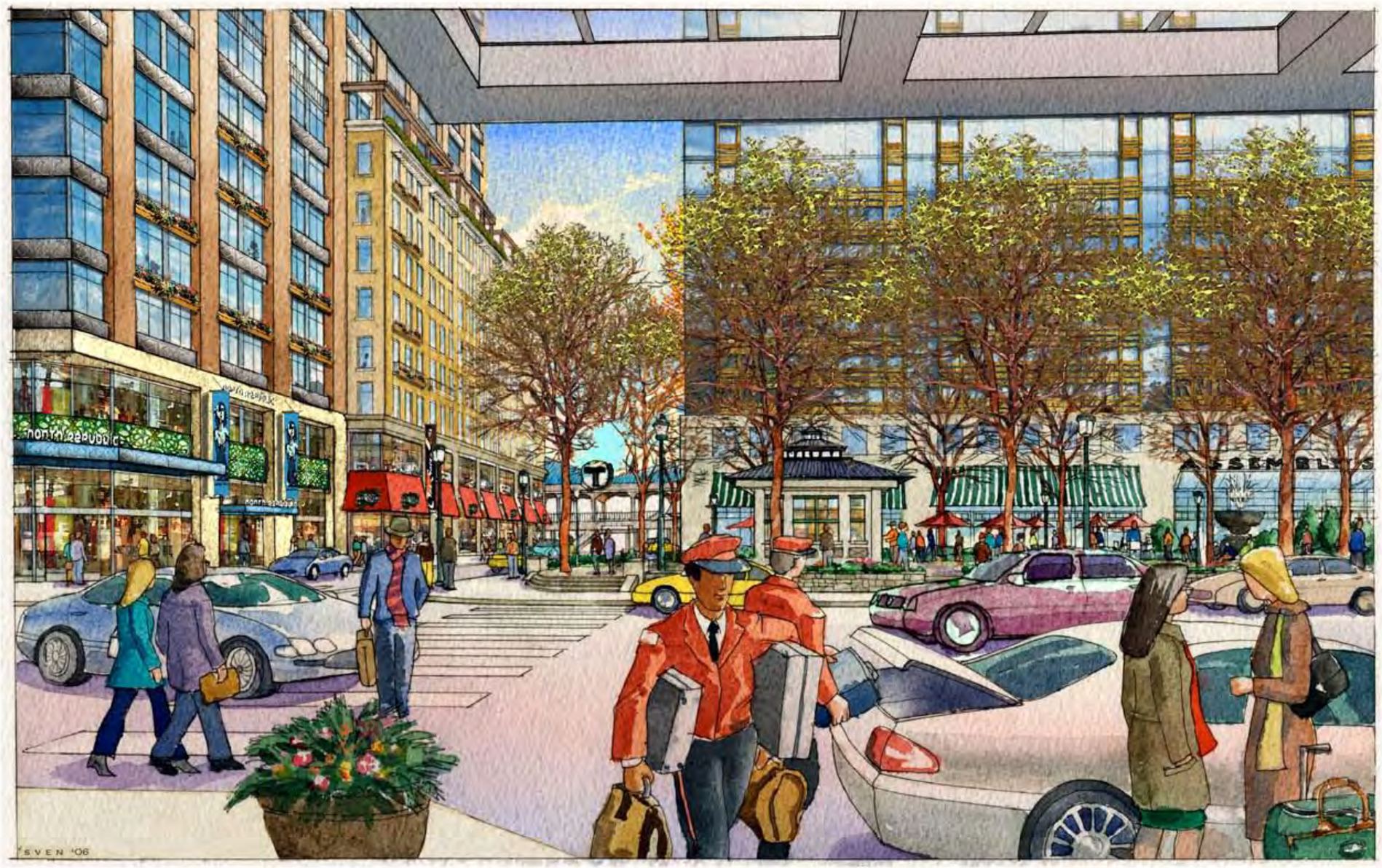
Great Public Spaces: Assembly Square



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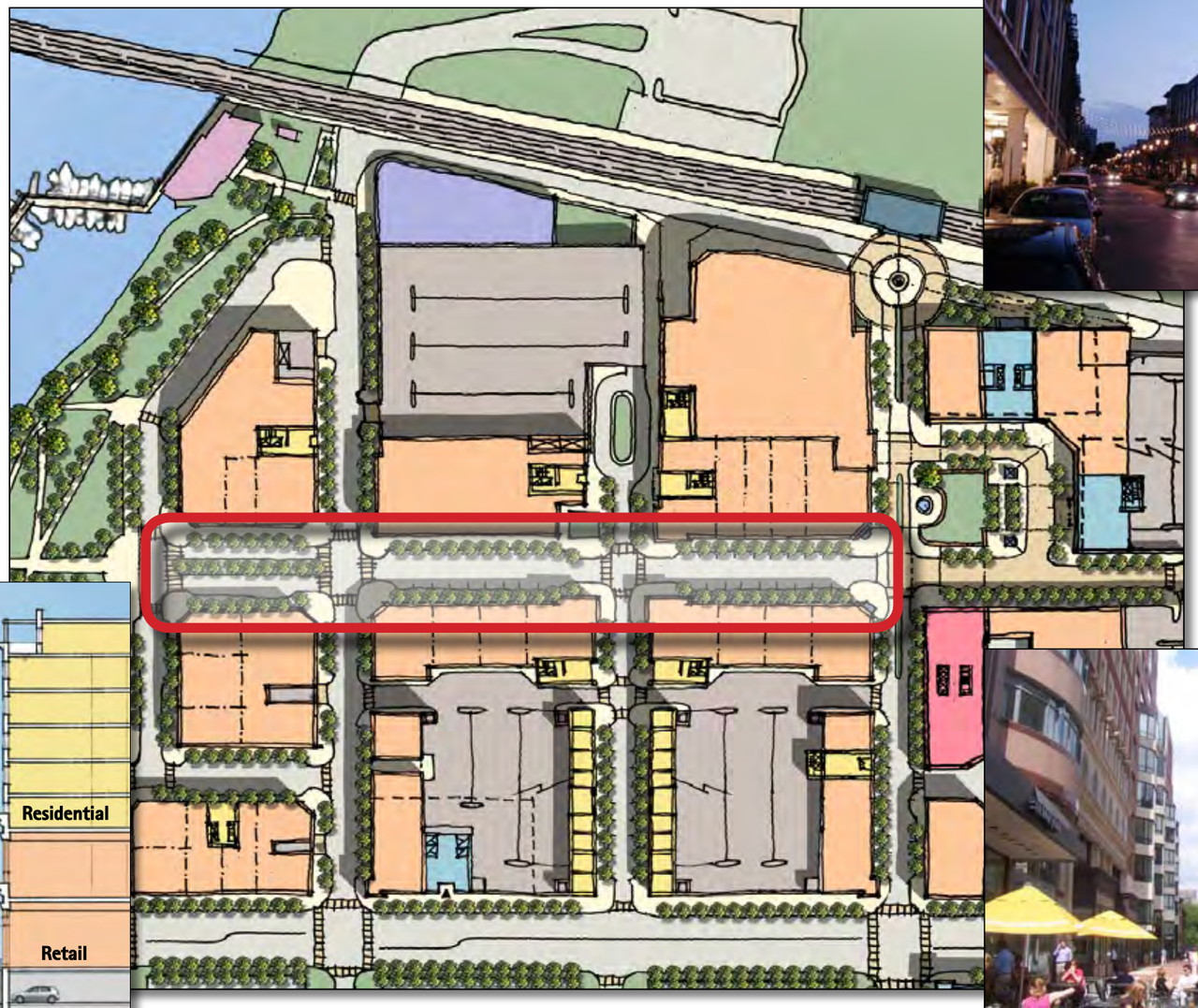
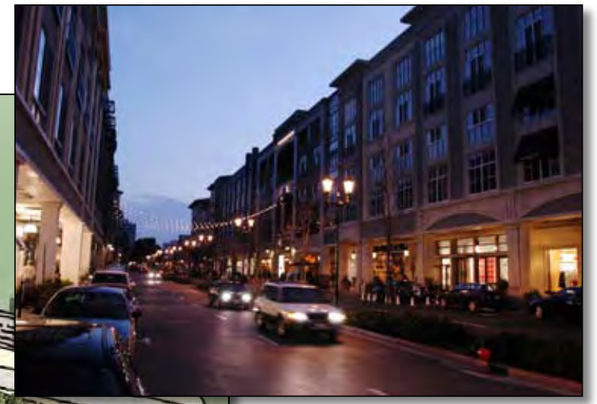
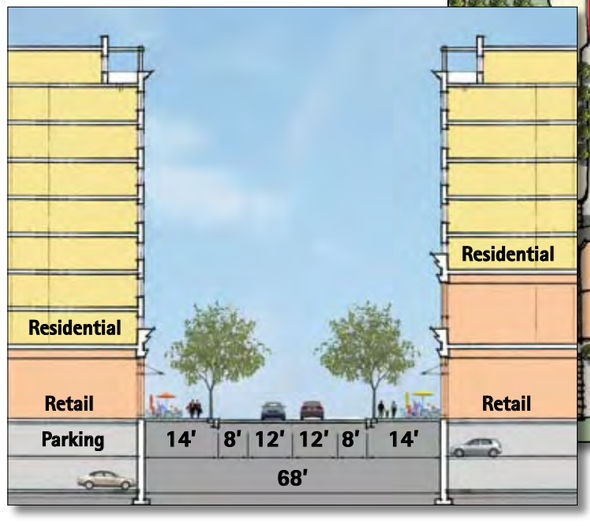
Great Public Places: A new main street

- A true ***mixed-use street***
- ***Street-oriented retail*** with residential above
- Walkable ***pedestrian-scaled blocks***
- ***A street for cars and people***
- ***Anchored*** by Assembly Square on one end and the riverfront on the other
- A comfortable and enjoyable environment ***connecting the community to the water***





Santana Row



Main Street – Section C

Boylston Street

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Great Public Places: A new main street

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Great Public Places: bringing a new vitality to the Mystic Riverfront

- **Improved Access:**
  - A continuous pedestrian walkway and bike path
  - A new riverfront roadway connects to Draw 7 Park and the Winterhill Yacht Club
  - Improved access to the water and the marina
- **Improved amenities to accommodate more intense use**
  - Places for sitting and passive recreation
  - A new pier
  - A new park for gathering and events
- **An active and public edge**
  - Public and private are clearly separated
  - Buildings along the edge are low-rise

Riverside Avenue – Section E

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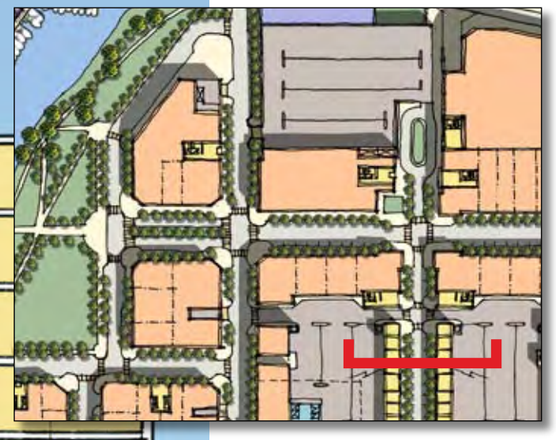
Typical Sidestreet

KEY PLAN



D Street

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Great Public Places: The Mystic Riverfont

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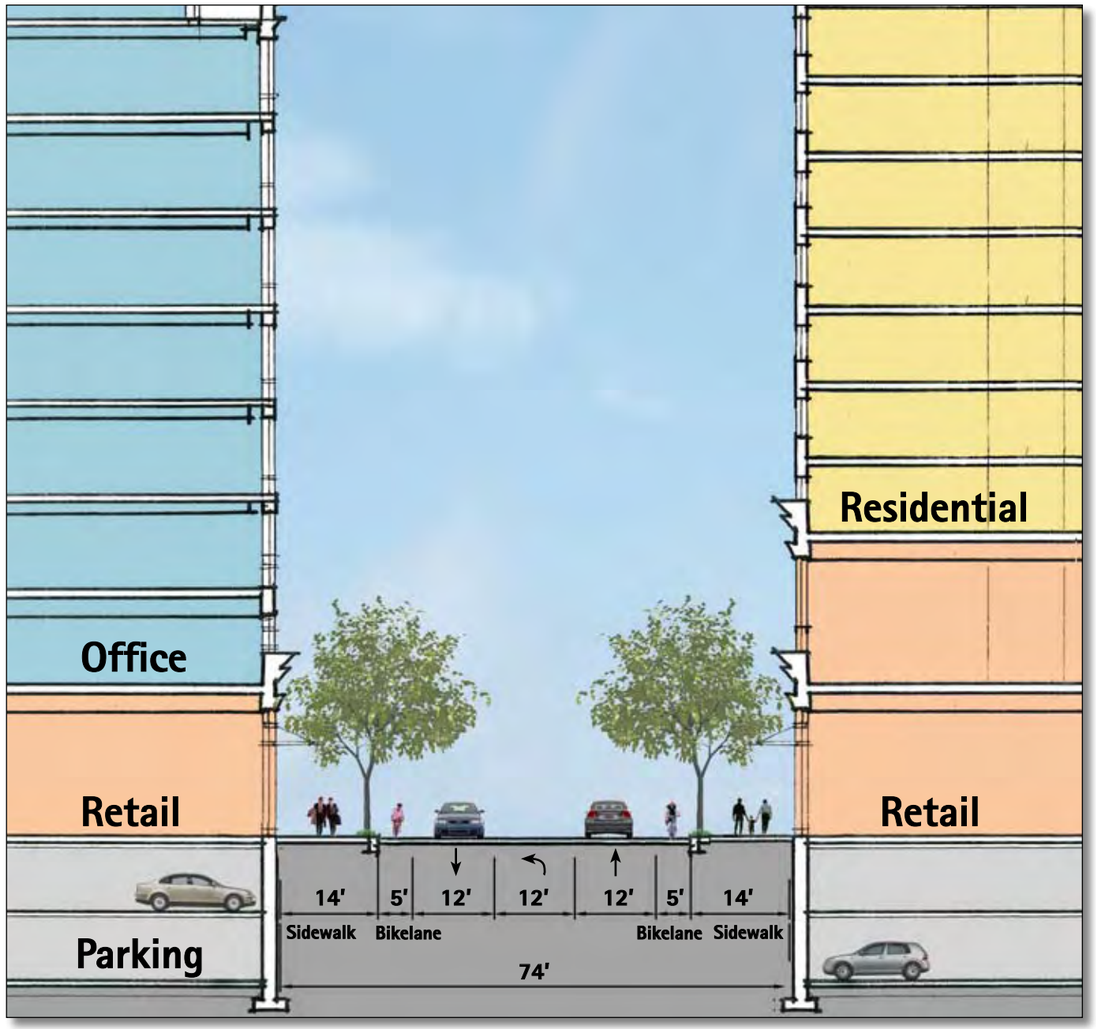
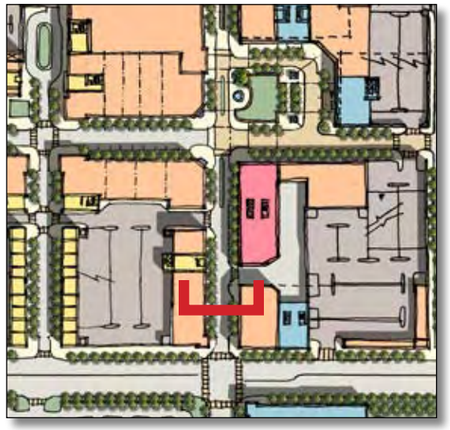
Foley Street

- **Vehicular and Bicycle Access to the T Station** and Assembly Square



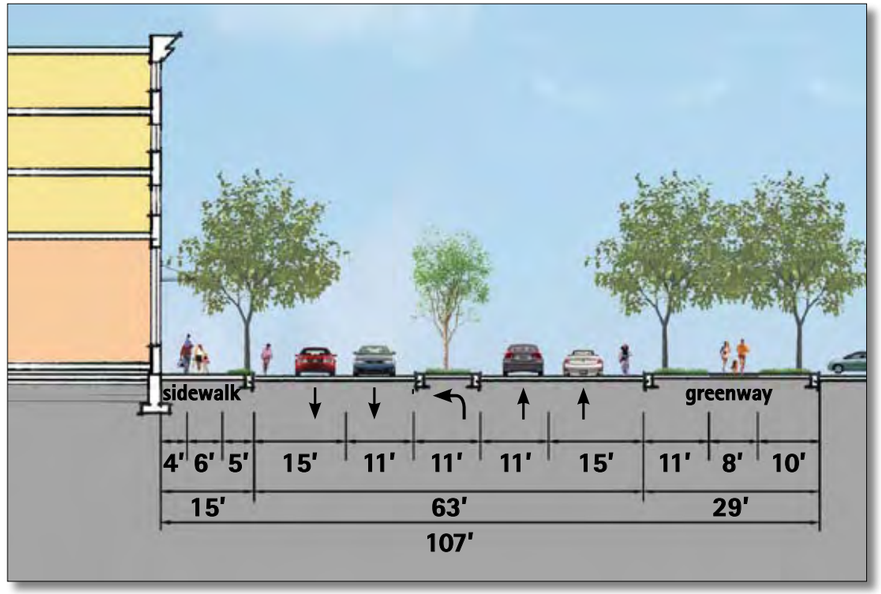
Foley Street – Section A

KEY PLAN

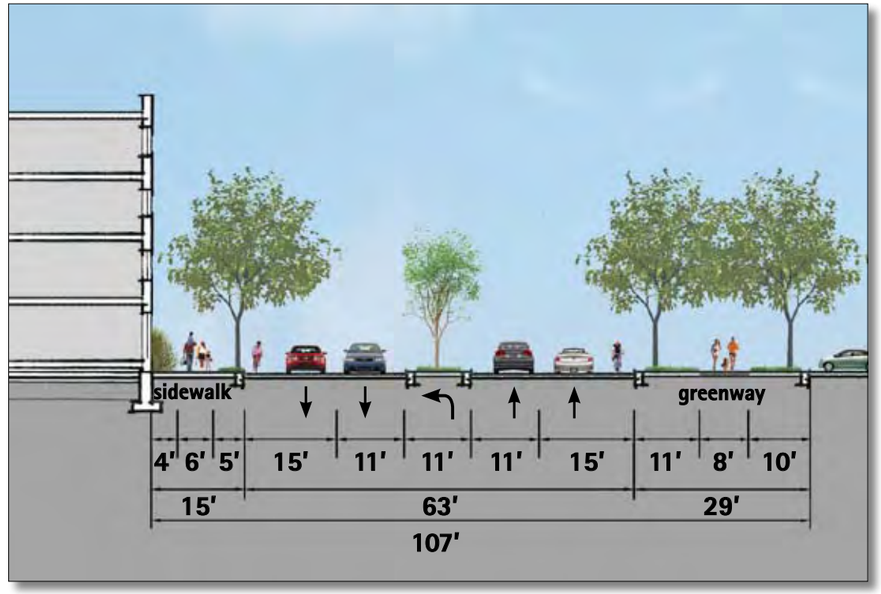


Assembly Square Drive

- **Unified landscaped treatment** ties developments along both sides together.
- **A multi-modal street:**
  - Two lanes of traffic in either direction
  - Pedestrian sidewalks
  - Bicycle lanes
  - Landscaped center median
  - Landscaped greenway on west side of A Street
- **Frequent side-street access** into Assembly Square
- **Major corners mark entrance** into Assembly Square



A



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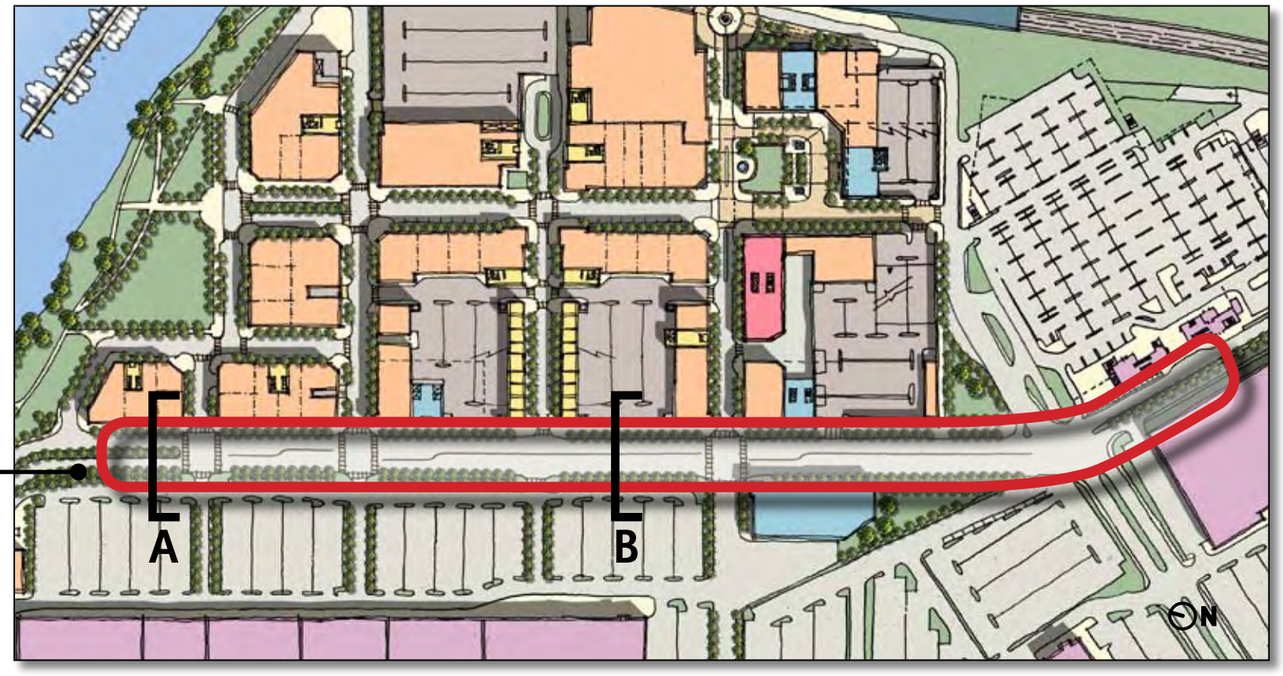

Assembly Square Drive – Section D

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Sustainability - Four area of focus

- **Site sustainability**
  - Transit-based plan
  - Mixed-use program
  - Heat island effect – green roofs
  - Light Pollution
  - Compact and walkable site development
- **Water efficiency**
  - Low-flow fixtures
  - Indigenous plant palette
- **Energy consumption**
  - Building Systems commissioning
  - Reduce CFC-based refrigerants in HVAC equipment
- **Materials and resources**
  - Regional/Renewable Materials
  - Recycled Content
  - Construction Waste Management

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Street Level Plan

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Chapter 91

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Site Plan

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Massing

- Tallest buildings clustered around T-Station
- Buildings step down toward the river

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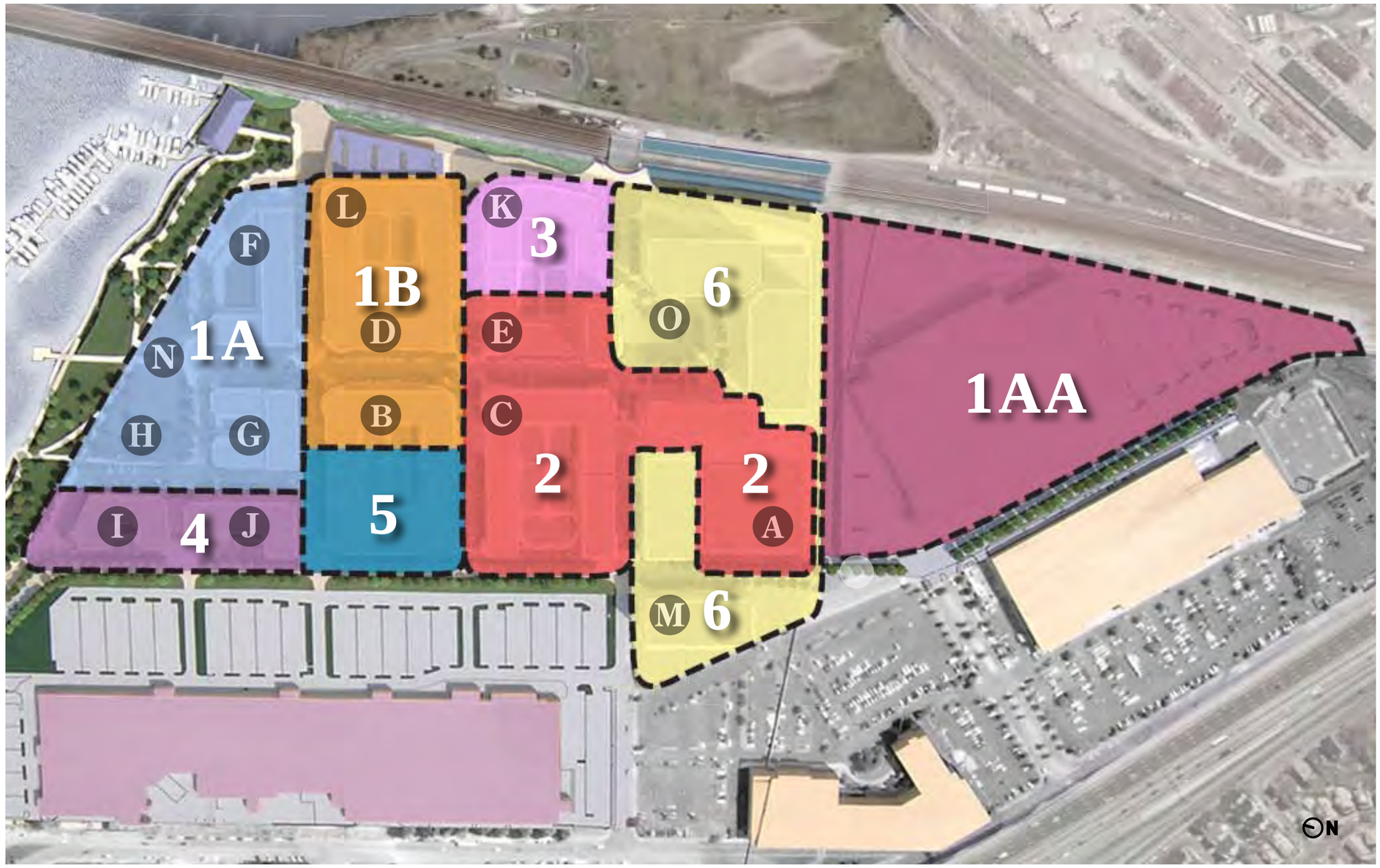
Phasing

Initial phase is:

- Big enough to create a sense of place and appear complete in itself
- Not so big as to require too large an initial infusion of capital that makes the project unviable
- On the riverfront to establish a presence



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Mixed-Use Program

- Residential - 2,100 residential units
- Retail - 450,000 square feet
- Office - 1,750,000 million square feet
- Hotel – 200 rooms
- Cinema- 62,000 square feet
- Total Development Program – 5 million square feet

Public Benefits

- **Improved access to the river**
- **A new Orange Line T Station**
- **Great Public Places:**
  - A new mixed-use main street leading to the water
  - Assembly Square
  - New riverfront park

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